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Weekly 2s

SMALL-INTESTINAL VOLVULUS IN THE BANTU

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In dealing with Bantu patients over a long period, one is impressed with the difference in the incidence of the various diseases and in the manifestation of those diseases as compared with the European. This does not only apply to diseases which can be ascribed to infections with different degrees of exposure and varying degrees of resistance, but also to diseases which may be termed constitutional.

In considering the question of intestinal obstruction or strangulation one finds one of these examples where races do differ markedly in their constitution and the disabilities that follow.

Table I shows the percentage of the various causes of intestinal obstruction, as found in European and Bantu patients for the purpose of comparison.

TABLE I: SHOWING PERCENTAGE INCIDENCE OF VARIOUS FACTORS CAUSING INTESTINAL OBSTRUCTION IN EUROPEANS IN THE U.S.A. AND IN BANTU ON THE WITWATERSRAND.

Causal factors as defined by the authors	European ¹	Bantu ²
External Hernia	44%	55.7%
Volvulus	4%	27.3%
Adhesions and Bands	24%	6.4%
Narrowing of Lumen		4.5%
Intussusception	5%	3.3%
Ileus		1.1%
Vascular Obstruction	3%	1.7%
Neoplasm	10%	NIL
Gall Stones and other Foreign Bodies	2%	NIL
Internal Hernia	4%	NIL
Meckel's Diverticulum	3%	NIL
Congenital Anomalies	1%	NIL

The Analysis of the Witwatersrand is of 359 Cases of Obstruction.

In most of the cases where the percentage difference is marked some easy explanation is forthcoming. For instance the difference shown under 'Bands and Adhesions' (Table I) is due to the fact that the Bantu abdomen is not so frequently surgically assaulted, the difference under 'Neoplasm' to the fact that the bulk of mine labourers consists of young men, and that under

'Vascular Obstructions' to the fact that they are fit men (or they could not do their work). The large difference under 'Volvulus', however, seems to have its explanation in constitution.

Further the nature of the volvulus also shows a distinct type. In Western Europeans volvulus is rare, in Eastern Europeans³ and in the Bantu common. Perlman in Russia reports more than half their cases of obstruction are due to volvulus, and Braun and Wortman⁴ in Berlin found 31 cases of volvulus in 102 cases of obstruction. But, their cases are volvulus of the pelvic colon, and the Bantu suffers predominantly with volvulus of the small intestine. In our experience in the Bantu there are four cases of small intestine volvulus to one of the pelvic colon. Support for this finding is given by W. G. Kerr and W. H. Kirkaldy-Willis⁵ of Kenya. They treated (during 1945) 21 cases of acute intestinal obstruction in the Bantu of all ages and all sexes and the following figures show the diagnosis as to cause at operation.

TABLE II: SHOWING PERCENTAGE INCIDENCE OF VARIOUS FACTORS, CAUSING INTESTINAL OBSTRUCTION IN BANTU IN KENYA.

Causal Factors as defined by the Author	No. of Cases
Strangulated Inguinal Hernia	4
Intussusception	4
Meckel's Diverticulum	1
Bands and Adhesions	3
Volvulus of Pelvic Colon	2
Volvulus of Small-Intestine	7

Finland alone in Eastern Europe appears to have a high incidence of small intestinal volvulus. R. R. Faltin and Kallio⁶ report they have seen over 100 cases of this type of volvulus in Helsinki, but unfortunately do not give the number of the pelvic colon type for comparison.

Clinically in the average case, the patient is seized suddenly with severe pain and vomits four or five times. On coming to hospital, which he usually does after four or five hours, his general condition does not

seem too bad; vomiting has abated and the pulse and blood pressure are fairly good. The abdomen is not much distended. The pain is described as colicky in nature, but there are not free intervals. I think this is due to the drag on the base of the mesentery as it becomes twisted, causing a constant tearing pain on which the colic is superimposed. Auscultation has not proved very conclusive in making a diagnosis. Vomiting re-commences in an hour or so and the patient looks very anxious. The pulse and blood pressure do not gradually deteriorate, but sustain themselves well until a sudden turn for the worse takes place. Operation should be undertaken before this point, but often the patient refuses operation until it is obvious to him that the pain will not cease of its own accord.

In attempting to indicate the cause of this condition, the findings at operation are unfortunately not helpful. Usually well over two-thirds of the small bowel is involved and the whole of the radix mesenterii acts as the pedicle. Very rarely is the caecum caught up with the volvulus. The obstructed part of the gut seldom contains any heavy lumps of undigested food which might act as a precipitating factor. It is to be noted that lumps of food, especially beans and balls of round worms, do at times cause obstruction in the Bantu, but not obstruction of the volvulus type. Adhesions acting as a pivot at the apex of the volvulus, following peritonitis due to some ulcerative trouble of the bowel, or cicatrized deformity of the radix mesenterii following tuberculosis were not a factor in our cases. As I

TABLE III: RECORDING PROGRESS OF HEAD OF OPAQUE MEAL IN 77 BANTU PATIENTS AT EAST GEDULD HOSPITAL, COMPARED WITH POSITION EXPECTED IN AVERAGE EUROPEAN

POSITION EXPECTED IN AVERAGE EUROPEAN*

2—5 hours stomach empty.
3½ hours reaches ileo-colic sphincter.
4½ hours food enters caecum.
6 hours food reaches hepatic flexure.
9 hours food reaches splenic flexure.

	2 hours	3½ hours	4½ hours	6 hours	9 hours	Total N.F. & S.
		<i>Meals as usually taken</i>				
O		9N 12F 3S	9N 11F 4S	O	O	18N 23F 7S
		<i>Meal after 16 hours' fasting. Another meal in four hours' time.</i>				
2N 10F		12N	9N 3S	10N 2S	O	33N 10F 5S
		<i>Meal after 16 hours' fasting. Another meal in seven hours' time.</i>				
O		8N 4S	7N 5S	7N 5S	9N 3S	31N 17S
		<i>Meal as usual. Another meal in two hours' time.</i>				
20N 7F 2S		17N 1F 11S	20N 6F 3S	O	O	57N 14F 16S
<i>Total N.F. & S.</i>	22N 17F 2S	46N 13F 18S	45N 17F 15S	17N 7S	9N 3S	

N = Position as given for European average.
F = Ahead of position given for Europeans.
S = Behind position given for Europeans.
O = Not done.

have stated before, post-operation adhesions are rare and we have not found them as a cause of volvulus.

A more hopeful means of explanation lies in the variation in average length of the intestines in the different races, though naturally no definite opinion can be formed at an operation about the part the length of bowel plays. A longer small intestine with a radix mesenterii of the same length should be more prone to volvulus. To support this contention it is appropriate to refer to volvulus of the pelvic colon. This is a portion that varies much in length, 5 inches to 35 inches² being found, but it is thought that Eastern Europeans generally have longer pelvic colons than Western Europeans. Curschman found abnormally long flexures in 4.2% of post-mortems in Germany, while Samson⁸ in Russia found 20%. The frequency of volvulus of that organ seems to increase with its length. The Bantu small intestine is thought to be longer than that of the European and the mesentery more lax, and Dr. Friedman, District Surgeon, Johannesburg, in a personal communication, has informed me that that is his opinion, based on many autopsies. I submit, therefore that this is one very possible explanation.

One has also to consider the effect of the diet and the speed of its passage through the intestines. In Eastern Europe a predisposing factor is claimed to be long periods of fasting followed by large meals containing much indigestible material. Analogous circumstances can be found in the Bantu diet and feeding habits both at home and on the mines, where most of the day's nourishment is taken in a gigantic evening meal, hastily eaten and containing much roughage. This feeding habit might lead to a different intestinal reaction from that of the Western European with his concentrated food and evenly spaced meals in two ways. First there might be hypermotility in dealing with the bulk of food, and the hypermotility might cause the volvulus; or there might be delay with a mass of food lying in a loop and causing that loop by its weight to be the starting point of a volvulus.

To attempt to throw some light on this aspect of the matter we have undertaken, at East Geduld Hospital, the X-ray examination of some 80 natives, by means of an opaque meal. The barium was mixed with the ordinary afternoon meal instead of using the customary barium meal, in order to preserve the great bulk of the diet in the experiment. Patients in hospital with minor surgical complaints were chosen (such as septic toes), in order to exclude medical cases with intestinal upsets. Varying periods of fasting were undertaken before the opaque meal and the latter was followed by another feed, in some cases, also at varying periods. This was done in order to see how the intestines behaved under different circumstances of fasting and gorging. The second meal when given did not contain barium, in order not to confuse shadows. Table III tabulates the results.

From this Table one gains the impression from the vertical columns that there probably is some hypermotility in the upper small intestine under varying sequences of fasting and gorging; and from the horizontal columns, that the exact sequence of fasting and

gorging makes little difference. This is confirmed clinically, as no constant relationship could be traced in the histories of our cases to the time of the last large meal.

SUMMARY

1. Attention is drawn to the large number of intestinal obstructions caused by volvulus in the Bantu. On the mines 27.3% of cases are due to volvulus, and the great majority of them are of the small intestine.

2. An attempt has been made by means of opaque meals after varying periods of fasting, to find out if there is hypermotility or stasis which might initiate the volvulus, bearing in mind the bulk of the Bantu diet. The results are not conclusive, but it seems there is some hypermotility in the upper small intestine.

3. The peculiarities of the signs and symptoms are described and it is especially noted that the pulse and blood pressure remain in good condition till late in the progress of the disease, when they suddenly deteriorate.

REFERENCES

1. Wangenstein, O. H. (1946): *Intestinal Obstruction*. Christopher's Text Book of Surgery, Fourth edition, 1042. Philadelphia: W. B. Saunders Co.
2. Sartorius, K. H. (1947): *Acute Intestinal Obstruction among Natives on the Witwatersrand Gold Mines*. Proc. Transvaal Mines Med. Off. Assoc., September-October, p. 33.
3. Aird, I. (1949): *Companion in Surgical Studies*, 680. Edinburgh: E. and S. Livingstone.
4. Braun, Wortman and Perlman, quoted by Griffin, W. D. (1945): *Surg. Gynec. Obst.*, **81**, 287.
5. Kerr, W. G. and Kirkaldy-Willis (1946): *Volvulus of the Small Intestine*. *Brit. Med. J.*, **1**, 257.
6. Falton, R. R. (1939): *Medical Annual*, p. 257.
7. Cunningham's Text Book of Anatomy, Fifth edition, p. 1212.
8. Samson and Curschman, as quoted by Wangenstein, O. H. (1946): *Intestinal Obstruction*, in Christopher's Text Book of Surgery, Fourth edition, p. 1051. Philadelphia: W. B. Saunders Co.
9. Clark (1935): *Applied Pharmacology*. Fifth edition, p. 302. London: J. & A. Churchill Ltd.

ABSTRACT

Chronic Nodular Allergic Cutaneous Polyneuritis (Prurigo nodularis of Hyde): Polynévrite cutanée nodulaire chronique, allergique. Perez, R. M. and Maruri, C. A. (1949): *Annal. Dermatol. Syphiligraph.*, **9**, 623.

Description of a case with excellent histological studies, and a discussion of pathogenesis. The main conclusions are:

1. Neuritis is the predominant histological feature;
2. Proper techniques are necessary to demonstrate the changes;
3. The neuritic process in the florid stage is characterized by hypertrophy of the neurofibrils of the nerve fibres and trunks which exist in the inflammatory infiltrates;
4. Neuritis causes degeneration and disappearance of a large number of fibres and nerve endings, with regeneration of some cylindraxes, especially in the abortive type;
5. Disappearance of fibres can affect even the nerve trunks;
6. Little Schwannomas may appear after the disappearance of the fibres;
7. Epidermal changes follow the classical descriptions;
8. Dermal changes correspond to a process of imbibition in oedematous tissue;
9. Pruritus results from the nerve changes;
10. The lichenification follows repeated frictional trauma in allergic individuals;
11. The neuritis may be allergic in origin.

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VAN DIE REDAKSIE

SIKTE EN DIE UITREIKING VAN MEDIESE SERTIFIKATE

Werkgewers kla van tyd tot tyd oor die gemak waarmee hulle werknemers sekere soorte mediese sertifikate kan verkry wanneer die siekte of besering wat tot afwesigheid uit die werk aanleiding gee aan 'n oorsaak te wyte is wat binne beheer van die werknemer is, bv. dronkenskap, deelname aan sport ens. Dit het selfs gebeur dat 'n werknemer 'n mediese siektesertifikaat getoon het, ten spyte van die feit dat hy herhaaldelik op straat gesien is gedurende die tydperk wat deur die sertifikaat gedek is.

Geneeshere kom natuurlik dikwels voor wesentlike en aansienlike moeilikheid te staan wanneer die aard van 'n siekte wat ondersoek word hoofsaaklik afhang van subjektiewe siekteverskynsels en 'n kliniese geskiedenis wat nie maklik deur 'n onafhanklike ondersoek bevestig kan word nie. Ten spyte van hierdie moeilikhede moet geneeshere egter op hulle hoede wees teen moontlike (selfs al is dit onopsetlike) wanvoorstellings by sulke sake. Hulle moet alles in hulle vermoë doen om te verseker dat sertifikate wat hulle naamtekening dra, die siekte of besering wat gesertifiseer word korrek aandui.

Die geneesheer mag dikwels lofwaardige medelye hê met die verknorsing waarin baie werkers wat sertifikate verlang hulle bevind, maar daar bestaan net so 'n groot verpligting om die regte van werkgewers in ag te neem. In sulke omstandighede moet die geneesheer rekening hou met Reël No. 17 van die *Gedragreëls* waarvan die S.A. Geneeskundige en Tandheekundige Raad ook kennis behoort te neem. Hierdie reël lui:

Sertifikaat: In sy professionele hoedanigheid 'n sertifikaat uitreik tensy hy oortuig is dat die feite daarin genoem volledig en juis is, of 'n aantekening van die volgende voorbehoud op die sertifikaat gemaak het: 'soos my meegedeel is'.

DOMUS MEDICA

Hierdie internasionale organisasie* wat in 1949 met regspersoonlikheid bekleed is, is in die lewe geroep om dit vir geneeshere oor die wêreld maklik te maak om met mekaar in aanraking te bly. Die hoofkwartier is by 664 N. Michigan Avenue, Chicago 11, Illinois, en die Vereniging het nou die eerste nommer van 'n half-maandelikse blad uitgegee wat *Chronicle of the Domus Medica* heet.

Kollegas wat dit oorweeg om in die Verenigde State of Europa te gaan reis, word aangeraai om in ver-

* The International Society of Friends of Domus Medica.

EDITORIAL

SICKNESS AND THE ISSUE OF MEDICAL CERTIFICATES

From time to time complaints are made by employers about the ease with which their employees can obtain certain types of medical certificates when the illness or injury responsible for the absence from work has been due to a cause within the employee's control, e.g. intoxication, participation in sport, etc. It has even happened that, despite having been seen in the streets on numerous occasions during a period covered by a certificate, an employee has nevertheless presented a medical certificate of illness.

Medical practitioners are often, of course, faced with genuine and considerable difficulty when investigating the nature of an illness which depends largely on subjective complaints and a clinical history not readily verifiable by independent enquiry. Despite these difficulties, however, practitioners should be on their guard against possible (even if unintentional) misrepresentation in these matters. They should exercise every care that certificates issued over their signatures truly reflect the illness or injury certified.

The medical practitioner may often have a commendable sympathy with the plight of many workers seeking certificates, but there is an equally great obligation to consider the rights of employers. In such situations the practitioner should bear in mind No. 17 of the *Rules of Conduct* of which the S.A. Medical and Dental Council may take cognizance. This rule reads:

Certificates: Granting a certificate in his professional capacity unless he is satisfied that the facts are fully and correctly stated therein, or has qualified the certificate by the use of the words 'as I am informed'.

DOMUS MEDICA

This international organization,* incorporated in 1949, has been created in order to make it easy for medical practitioners to keep in touch with one another all over the world. The headquarters are at 664 N. Michigan Avenue, Chicago 11, Illinois, and the Society has now produced the first number of a bi-monthly publication entitled *Chronicle of the Domus Medica*.

Colleagues contemplating travel in the United States or in Europe would be well advised to communicate with this Society which can place at their disposal a

* The International Society of Friends of Domus Medica.

binding te tree met hierdie Vereniging wat aansienlike geriewe, professioneel sowel as sosiaal, tot hulle beskikking kan stel.

Lede van die Internasionale Vereniging van Domus Medica sal gedurende hulle verblyf in Parys gebruik kan maak van al die voorregte wat gebied word deur die *Club Interallie*, 33 Rue du Faubourg Saint Honoré, in die hartjie van daardie stad geleë.

Reëlins is getref om in Februarie 1951 'n internasionale kongres te Monte Carlo te hou, by watter geleentheid die Kongres aan 'n tiendaagse toer langs die Franse Riviera (met karnaval in Nice) sal kan deelneem en Rome, Tunisië, Algerië en Marokko sal kan besoek.

Lede wat belangstel in die geriewe wat Domus Medica bied, moet by die gegewe adres in verbinding tree met dr. Valentin Charry, redakteur van die *Chronicle of the Domus Medica*.

considerable number of facilities, both professional and social.

Members of the International Society of Domus Medica will be able to participate in all the privileges offered by the Club Interallie located at 33 Rue du Faubourg Saint Honoré, in the heart of Paris, during their stay in that city.

An International Congress of the Domus Medica has also been arranged in Monte Carlo for February 1951, when the members of the Congress will be able to participate in a 10-day trip on the French Riviera (Nice carnival) and will be able to visit Rome, Tunis, Algeria and Morocco.

Members interested in the facilities offered by Domus Medica should communicate with Dr. Valentin Charry, Editor of the *Chronicle of the Domus Medica*, at the address given.

DOUBLE PLATING OF FRACTURED BONES*

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This ambulatory method of treating fractures of the diaphysis of long bones lends itself to the femur and tibia in the lower extremity and the humerus, radius and ulna in the upper limb. I have called the method 'double plating'. In America where some cases have been done by Wenger in New York and Albert Key in St. Louis, the method is called dual plating. By this means a rigid join is arrived at enabling one to dispense with external splinting.

Soft Tissue Repair is More Important than Bony Union. The principle is revolutionary. It removes the emphasis from the bone and places it on the soft tissues. The healing time of the bone no longer assumes importance; it is the rate of healing of soft tissues which determines when a man with a fracture will return to work. The bone fragments are adequately secured at the time of operation and the repair is strong enough to withstand all normal strains and stresses. Bony union will occur in its own good time. Though not important, it is interesting to know that bony union by external callus is extraordinarily rapid—hard callus being present in as short a time as four weeks. This I put down to the early restoration of function, which appears to stimulate bony union.

In those cases where for some reason or another function was not restored the formation of callus was slow.

Restoration of Function. The term has been used loosely for many years as meaning the movement of joints and contraction of muscles. To fix a fractured femur by means of a Stader or other type of splint so that the patient lying in bed can move hip, knee and ankle is good treatment, but it is not restoring function. It is only the partial restoration of function and the

movement of joints while lying in bed is only a palliative procedure. I have seen joints gradually stiffen under this régime.

The main function of legs is to take the weight of the body—to walk, to run, to kick, to bend so that a man can sit down, but all the actions are done with the weight of the man transmitted through the bone, and it is only when the full function is restored that the bone will unite quickly and mould itself to take the stresses and strains demanded of it. It is only when the full weight of the body has to be supported that the muscles will regain their former strength and the joints their full range of movement. This powerful contraction of the muscles is required to restore the circulation of a limb and the adequate lubrication of the joints. In all cases there was a complete absence of the oedema of the ankle or leg which is such a common and annoying occurrence when a fracture has been treated by recumbancy or plaster of Paris.

Modern teaching of fracture treatment lays stress on securing absolute immobility of the fragments. There are some surgeons experienced in fracture work who do not agree with this. They claim that a little movement stimulates the formation of callus. They state that non-union of tibial fractures was rare when they were treated by the old box splint method. In a double plating it is to be expected that there would be slight movement at the fracture site because there is a 1/64" clearance in the bolt holes.

Without stressing the point I might mention that there was more exuberant callus formation in those cases which exhibited a little movement.

ADVANTAGE OF DOUBLE PLATING

I have been impressed by several advantages of this method which I did not consider or expect when I

* Address delivered to the Johannesburg Sub-Group of Surgeons.

started it. My principal object in starting the method was to save time and get a patient back to work as soon as possible. That object has been achieved as a glance at the tables will show. The average disability period for femurs was 47 days against 135 days by previous methods; tibia 35 days against 176 days; humerus 14 days against 79 days; radius and ulna 7 to 10 days against 63 days. The other advantages which occurred were:—

i. *Rapid bony union* (though, as I have stated, this ceases to be important).

ii. *A total absence of pain* after the first few days. The pain experienced was only that of the operation. As soon as the soft tissues healed there was no pain. There was never any pain when the patient began to walk or use his arm.

iii. *The rapid restoration of full range of movement* of the joints. In all those cases I have been able to follow up there was a complete range of movements of the joints. A person with a fractured femur was always able to squat 3 to 4 months after his fracture. With standard methods of treatment most fractured femurs are left with some limitations of flexion and many take two years to gain their maximum movement.

iv. Most people are willing to undergo an operation at the time of the injury, but they are very disappointed if they

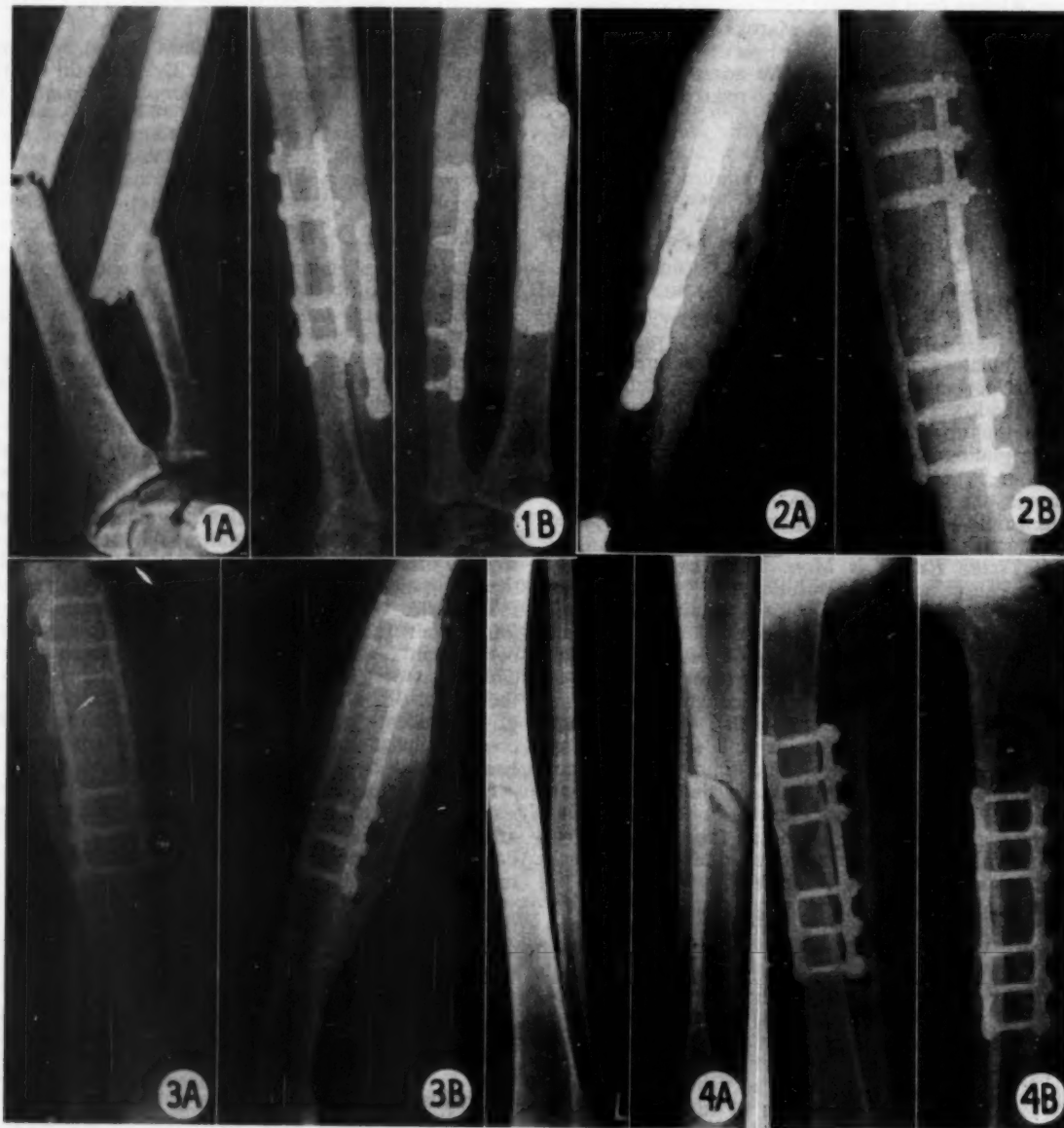


Fig. 1A (Case 1). On admission. Fig. 1B. Two years later. Figs. 2A and 2B (Case 7). One year after repair. Figs. 3A and 3B (Case 11). Seven months after repair. Fig. 4A (Case 12). On admission. Fig. 4B. After repair.

are asked to undergo an operation some weeks afterwards because conservative measures have failed.

v. *Patients are co-operative* because they are impatient to be well. Men who are put to bed for fractures are impatient for the first few days and then the awful thought of lying in bed for two to three months produces an apathy which they find hard to overcome when they have to get up. The thought of getting back to work no longer appeals to them. By necessity they have become sluggish and are no longer impatient to get back to the activity of life which was interrupted by their accident. In one patient (Dixon, Table I), e.g. the moment his stitches were removed on the seventh day, he went to work. The next day he was driving a car in the country. His fracture did not interrupt his work. It had become only an incident causing his work to accumulate and making him work harder to catch up.

vi. As mentioned before there is a *complete absence of static oedema* when the patient starts to walk.

Soft Tissues. Muscles start to waste the moment a fracture occurs. If their inactivity lasts for long they take a long time to regain their tone. In double plating they have only seven to 10 days to waste and are then promptly called upon to exert their full power. It is moreover, difficult to measure wasting because the amount of callus that forms usually makes the limb bigger than the sound one. It stands to reason that the sooner the operation is done after the injury, the quicker the return to function will be.

ILLUSTRATIVE CASES

Case 3. Wilson, a Bantu aged 35 years, fell off a bicycle which he had 'borrowed'. He broke his right femur in its middle third. His operation was delayed for two weeks because he developed a traumatic

uraemia. He had a blood urea of 91 mg. per 100 c.c. and he raved in delirium. A double plating was done on 12 May 1947. He walked on the tenth day and four weeks later he was discharged to gaol with 90 degrees flexion of the knee. After the 10 weeks hard labour for

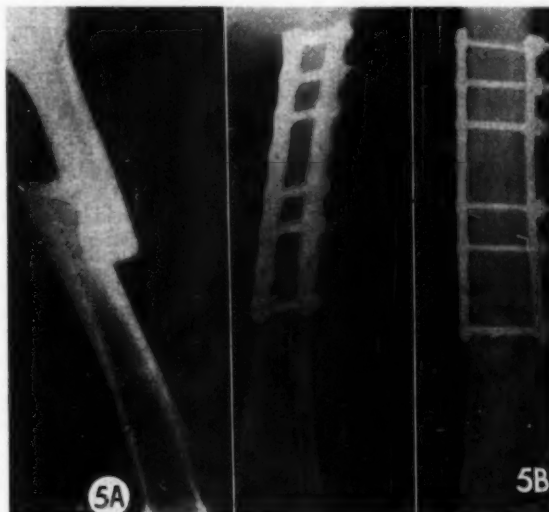


Fig. 5A (Case 16). On admission Fig. 5B. After repair.

TABLE I : SYNOPSIS OF RESULTS

Case No.	Name	Bone	Position of Fracture	Days in Hospital	Days after Operation	Callus	Condition of Discharge Flexion of Knee	Gait
2	Alimina Voce	Femur	Lower $\frac{1}{3}$	62	41	Good	20°	Limps
3	Wilson	Femur	Middle $\frac{1}{3}$	67	54	Abundant	90°	No Limp
4	Thomas	Left femur Right femur	Lower $\frac{1}{3}$ Lower $\frac{1}{3}$	105	86	Abundant Abundant	95° 60°	Limps
7	Isaac	Femur	Upper $\frac{1}{3}$	28	23	Good	90°	No Limp
11	Titus	Femur	Middle $\frac{1}{3}$	48	46	Good	90°	No Limp
14	Petrus	Femur	Middle $\frac{1}{3}$	33	28	Good	110°	No Limp
15	James	Femur	Middle $\frac{1}{3}$	41	35	Abundant	150°	No Limp
16	Petrus Myia	Femur	Middle $\frac{1}{3}$	28	31	Good	120°	No Limp
18	Alfred	Femur	Middle $\frac{1}{3}$	89	82	Good	92° after two weeks	No Limp
			Average	56.8	47.3			
21	Dixon	Radius	Upper $\frac{1}{3}$	28	7	Full work seven days after operation.		
22	de Fortier	Radius & ulna	Middle $\frac{1}{3}$	14	10	Five weeks later was working as house painter.		
1	Young	Radius, ulna & tibia	Middle $\frac{1}{3}$	65	21 (arm) 52 (leg)	In three weeks was using crutches with injured arm.		
12	Hall	Tibia	Middle $\frac{1}{3}$	35	30	No disability from tenth day onwards.		
1	Lucas	Humerus	Middle $\frac{1}{3}$	14	9	Excellent function, but radial palsy persists.		

'borrowing' the bicycle that had caused his downfall, he had good bony union with abundant callus. He could squat on his haunches and walk and run without a limp.

Case 4. Thomas was an unusual case because he had fractures of both femurs. He also had numerous abrasions so operation was delayed for three weeks to enable them to heal. Both femurs were double plated at intervals of seven days and he walked without support of any kind 10 days after his second operation. He was kept in hospital for another 10 weeks to watch his progress. He then had 95 degrees flexion of the left leg, but only 60 degrees flexion of the right due to an exuberant mass of callus just above and behind the knee joint. He reported back a year later and was seen by a casualty officer who reported he had excellent function, but unfortunately no measurements were taken.

Case 7. Isaac proved the ideal for which one strives and should be the normal for cases treated by this method. He was admitted with a fracture of the upper third of his right femur on 5 July 1947. Five days later a double plating was done and 23 days later, i.e. exactly four weeks after his accident, he was discharged to work. He then had 90 degrees of flexion of the

knee. I did not see him again for two years, when he had no disability whatsoever, could kick his buttock with his heel and had been working since his discharge from hospital.

Case 22. Cornelius de Fortier, aged 18 years, was referred to the hospital by his doctor because he had failed to get a satisfactory position after manipulating a fracture of his left radius and ulna. On 29 October 1949 a double plate was applied to the radius and a single one to the ulna. He was discharged 10 days later to go to school but I understand that he did not actually go to school for another nine days. He wore no splint and was advised to join in all activities except sport. Eighteen days later, i.e. five weeks after his operation, the school holidays commenced and he started work as a house painter. The left arm was as strong as the right.

SYNOPSIS OF RESULTS

These times should be compared with the disability periods given in the final report of the inter-departmental committee on rehabilitation of persons injured by accident, viz.:—

Femur 135 days; radius and ulna 63 days; tibia 176 days; humerus 79 days.

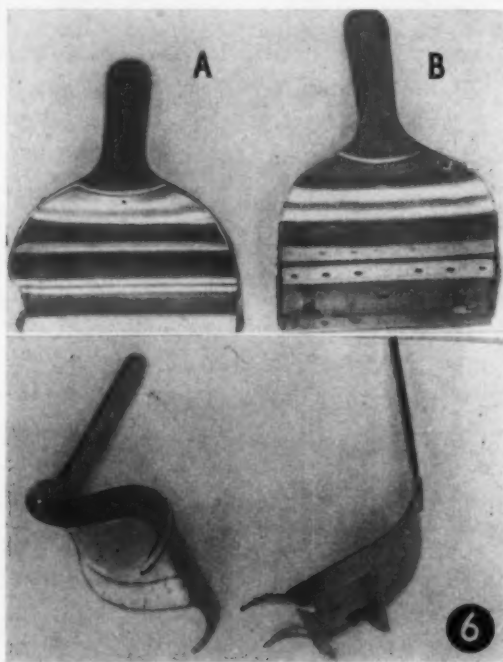


Fig. 6. A. Curved retractor for exposing the far surface of the femur. It is held upside down and the lugs slip over the anterior surface of the bone. It is then rotated round the bone until the lugs are posterior. The periosteum of the femur is thereby lifted half an inch away from the medial aspect of the femur.

B. Flat retractor and jig holder. This is passed directly into the wound so that the lugs slip under the posterior aspect of the femur. The broad surface prevents the muscle from being damaged by the drill. The jig is clamped to the bone fragments and the drilling proceeds. The retractors remain in position while the jig is removed.

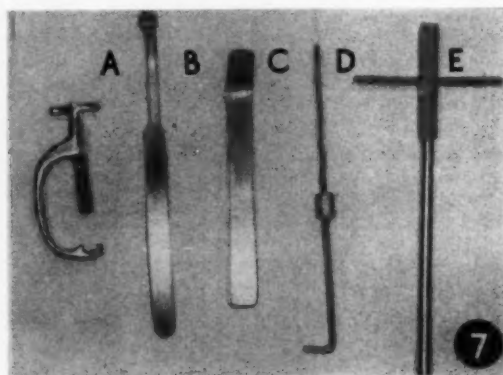


Fig. 7. A. G Clamp. The screw is hollow and acts as a guide to the drill. The plate is held in the groove at the bottom.

B. Long-handled box spanner which is curved at its end to allow it to pass over the top of the femur for tightening up the far nut.

C. Long-handled nut which curves over the femur and receives the jig fixing bolt.

D. Jig fixing bolt. This passes through the jig and the bone and screws into the long-handled nut. When two are applied (one in each fragment) the bone fragments are clamped and the remaining holes can be drilled. They cannot be drilled out of alignment.

E. Straight box spanner for tightening the nuts on the near side while B (the curved box spanner) holds the nuts on the far side.

OPERATIVE TECHNIQUE

As experience was gained and instruments made and adapted to the work, the operation became easier to accomplish. In nearly all these cases a different technique or modification of the technique was employed and I am still experimenting with different metals and improving the instruments.

The operation is an easy one provided the proper tools are used. The crux of the operation is in drilling four parallel holes and for this it is advisable to use a jig.

SPECIAL INSTRUMENTS REQUIRED

i. *Broad Curved Retractor.* This is illustrated in Fig. 6A and is designed to lift the periosteum $\frac{1}{4}$ inch away from the far aspect of the bone. It will be noted that the curved shape of the retractor causes little or no traction on the muscles to effect this exposure.

ii. *Broad Straight Retractor.* This instrument (Fig. 6B) also holds the jig and prevents soft tissues from being caught in the drill.

iii. *Jig.* This is a length of channel iron, hardened to prevent wear of the holes. It is the same length and has the same spacing of holes as the plates (Fig. 6B).

iv. *Two Long-Handled Bolts and Nuts.* These clamp the jig to the bone, thereby fixing the fragments and enabling the other holes to be accurately drilled.

v. An electric drill is used with a long drill. The standard morse drills are too short to go through both the jig and the femur.

Operation. This may be done with or without a tourniquet. An incision is made slightly longer than that required for a single plating. The fracture site is exposed and the fragments reduced. The periosteum is incised for the length of the incision. The broad curved retractor is inserted upside down so that the lugs pass over the anterior surface of the femur. The retractor is then rotated through 180° and this gives the necessary exposure.

The flat retractor and jig are now placed on the other side of the wound. The jig is thus held loosely against the bone. One of the end holes is drilled and the long handled bolt is passed through jig and bone and screwed into the long handled nut (Fig. 7C). This is repeated in the other fragment and then both bolts are tightened to fix the jig firmly on the bone. The other holes are now drilled and the jig removed.

The plates and bolts then can be placed in position and the nuts tightened. The wound is closed in layers. A firm bandage is applied, but no plaster of Paris is necessary.

Quadriceps drill is commenced on the fifth day. The dressings and stitches are removed on the tenth day and the patient is allowed to get up.

The benefits derived are worth the extra trouble. There are, of course, arguments against it. The strongest one is that put forward by those who believe that an open operation should not be done for a closed fracture; but even adherents of this school know that there are cases which have to be opened, either for malposition or the interposition of soft tissues. To those I suggest that when they have to open a fracture they should do a double plating. To those who favour plating of fractured bones I venture to suggest that they adopt the double plating method. I am sure they will never use a single plate again.

The other ambulatory method of treating fractured femurs which is being used to-day is the Kuntscher nail which is a long nail passed down the medulla of the femur. I think that the method I have described above has certain advantages. The use of the Kuntscher nail is virtually limited to the fracture of the middle third and the lower portion of the upper third of the femur. Double plating is applicable to all long bones. It also controls rotation better than does the Kuntscher nail.

I wish to thank Prof. W. E. Underwood, in whose Department this work has been done under a grant from the C.S.I.R.

REFERENCES

1. Wenger, H. L. (1944): *Amer. J. Surg.*, **66**, 382.
2. Key, J. A. (1945): *Bone and Joint Surg.*, **27**, 632.
3. Murphy, A. L. (1945): *Canad. Med. Assoc. J.*, **52**, 582.
4. Murray, C. A. (1944): *Bone and Joint Surg.*, **26**, 307.
5. Foster, G. V. (1942): *Arch. Physical Ther.*, **23**, 609.
6. Boyd, H. (1941): *Bone and Joint Surg.*, **23**, 497.
7. Yergason, R. M. (1945): *Connecticut State Med. J.*, **9**, 276.
8. Peterson, L. T. (1947): *Bone and Joint Surg.*, **29**, 335.
9. Henry, A. K. (1946): *Extensile Exposure applied to Limb Surgery*. Edinburgh: E. & S. Livingstone Ltd.

THE TOXICITY OF BITTER-TASTING CUCURBITACEOUS VEGETABLES (VEGETABLE MARROW, WATERMELONS, ETC.) FOR MAN

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In January 1932 the first case of poisoning in human beings with a bitter-tasting vegetable marrow was brought to my notice. Dr. E. P. Phillips, then Chief of the Division of Botany, Department of Agriculture, Pretoria, sent me a portion of a cooked 'maranc' which had poisoned a family. What was sent to me was a portion of the commonly known whitish or light-yellowish vegetable marrow. It is sometimes called 'the smooth-skinned maranc (maracca or maranca)'. However, the true 'maranc (maranca or maracca)' has the same form as the vegetable marrow but is slightly smaller, dark-green in colour and its outer surface is covered with small wart-like growths. The true 'maranc' is also known as the sweet-potato pumpkin.

On 25 October 1932 my wife bought from an Indian vegetable hawker a vegetable marrow and prepared it for lunch for our twin boys who were then almost two

years old. Within 20 minutes after the meal both took ill. We then discovered that the food (a mixture of cooked vegetables) they had eaten, was extremely bitter and that the bitter taste was due to the vegetable marrow. Toxicity tests^{2,3} carried out on rabbits proved the above vegetable marrows to be extremely toxic.

In the course of the last 18 years I have repeatedly received specimens of vegetable marrows, little gems, and golden custard squash, which were sent to me either because of their bitter taste or because they had caused poisoning in families. The specimens were submitted by Medical Officers of Health, market masters (chiefly from Witwatersrand) and private families. One specimen of golden custard squash was brought to me from a students' hostel and one specimen of little gem from an hotel after a guest had taken seriously ill after a meal.

On 8 February 1950, Dr. Vorster of the Division of Horticulture, Department of Agriculture, Pretoria, sent me a portion of a watermelon which was found to be extremely bitter. Toxicity tests conducted upon rabbits proved that the bitter taste of this watermelon was due to the same type of poison as that found in all the previous specimens of marrows, little gems, and golden custard squash.

Toxicity. Rabbits proved to be susceptible to the poison present in the above specimens. As little as 2.0 gm. of either the fresh, or cooked, specimens per kilogram body-weight proved to be fatal to rabbits. In some cases the degree of toxicity was less. In my own experience, and according to the results of experiments conducted upon rabbits, it appears that very young children could be fatally poisoned by a few teaspoonfuls of these bitter cucurbits. It is obvious that the great danger lies in the sweetening and flavouring of such vegetables as the bitter taste may be masked to such an extent that the children may have swallowed poisonous, or even fatal quantities of the cucurbit before the bitter taste is fully realized; hence the warning to parents to taste children's and especially babies' food before giving it to them.

Toxic Principle. In the course of the preliminary experiments with the suspected cucurbits, some of the symptoms in the peracute cases resembled strychnine poisoning, but subsequently it was established, both biologically and chemically, that there was no strychnine in the specimens examined, and that the strychnine-like convulsions are due to asphyxia, probably as a result of paralysis of the centre of respiration.

Unfortunately, the specimens submitted were so limited in size that after the necessary biological tests had been conducted no material was left for chemical investigations. However, it is intended, should further material be available at any future date, to analyze the specimens for the presence of 'cucumin',^{4,5} or 'leptodermin'.^{4,5} This appears to be the next step, as it is possible that the above edible cucurbits may be cross-fertilized by one or more of our indigenous and poisonous species of *Cucumis*. The poisonous *Cucumis africanus* and *Cucumis myriocarpus* occur extensively on some cultivated lands in the Transvaal. Their fruits

are very bitter and very poisonous and it is possible that through cross-pollination with edible cucurbits growing on the same lands, they may transmit their bitter taste and toxic properties to the latter cucurbits.

The symptoms and post-mortem appearances in rabbits and human beings poisoned with the fruits of our indigenous wild-growing species of *Cucumis* are very similar to those seen in rabbits and human beings poisoned by the specimens of edible cucurbits submitted to me.

The toxic edible cucurbits which were submitted showed no signs of any disease or damage and had a normal appearance.

Symptoms of Poisoning. The active principle of the

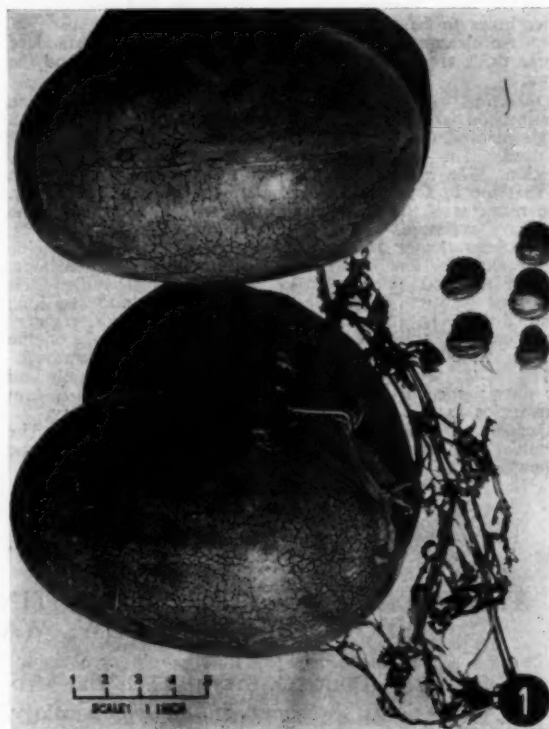


Fig. 1. The small fruits are those of *Cucumis myriocarpus* found near the toxic bitter watermelon (with the runner attached to it). The other watermelon in the photograph had a sweet taste. All these specimens were collected from the same land.

* On 13 February 1950, Dr. Vorster and Mr. Joubert (Division of Horticulture, Department of Agriculture, Pretoria), Mr. E. E. Anderssen (Division of Entomology, Pretoria) and I visited the farm (near Bronkhorstspuit, Transvaal), from which the above bitter and poisonous watermelon was obtained. In the course of our examination of a large number of watermelons still lying on the land, we found another extremely bitter watermelon. This melon (Fig. 1) had a normal appearance, colour and texture. I requested Professor H. L. de Waal, Department of Organic Chemistry, University of Pretoria, to analyse this melon for the presence of cucumin and he succeeded in isolating from it an extremely bitter substance which showed all the chemical characteristics of cucumin described by Rimington⁶.

Biological tests are being conducted to determine whether this bitter substance is toxic. The seed of both bitter melons have been collected and Mr. Joubert will conduct the necessary plant breeding experiments with them and also determine the possibility of cross-pollination between watermelons and the toxic species of *Cucumis*. I should add that I found a number of actively growing plants of *Cucumis myriocarpus* (with flowers and fruits) on the land on which we found the toxic bitter watermelons.

bitter-tasting cucurbits which were examined attacks chiefly the centre of respiration and the gastro-intestinal tract.

(a) *Man.* Natives frequently use the fruit of *Cucumis africanus* ('wilde komkommer', 'wilde agurkie', wild cucumber) as a purgative. Four cases, which showed very severe poisoning as a result of such use, came to my notice. Fortunately, the victims did not partake of fatal quantities of the fruit, but only developed a most pronounced acute haemorrhagic

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gastro-enteritis which almost ended fatally in one of my own Native boys. It is only in very acute and fatal cases that respiratory paralysis (asphyxia) is seen.

Families poisoned by specimens of the edible cucurbits showed severe digestive disturbances (nausea, vomiting, diarrhoea) and prostration.

My twin boys poisoned by the bitter vegetable marrow in 1932 showed the following symptoms: digestive disturbances (vomiting, diarrhoea), prostration, and very severe dyspnoea; one of them developed such severe convulsions due to asphyxia that we feared for his life. He was treated and subsequently recovered.

(b) *Rabbits: i. Peracute Cases.* The animals become very restless and the pulse and respiration are very much accelerated. The pulse becomes progressively weaker and the respiration progressively more laboured until, within two to three hours after having been dosed with the suspected cucurbit, the animals die in convulsions due to asphyxia. The pulse continues to beat slowly and weakly for a minute, or longer, after complete cessation of respiration.

ii. *Acute Cases.* The following symptoms are seen: restlessness, nervousness, dyspnoea, anorexia, profuse diarrhoea (foetid-smelling faeces), in the beginning the pulse is accelerated and strong but becomes progressively weaker. In fatal cases the animals may, or may not, die in convulsions (asphyxia).

Post-mortem Appearances. In peracute cases general cyanosis, pronounced dilatation of both heart ventricles and atria (distended with coagulated blood), slight oedema and pronounced hyperaemia of the lungs, and severe hyperaemia of the gastric mucosa, are seen.

In less acute cases the picture at autopsy is similar to that seen in peracute cases, but in addition there are petechiae, and even small ulcers, on the highly inflamed gastric mucosa, and acute catarrhal enteritis affecting both the small and large intestine. Frequently the mucosa of the large intestine shows oedematous folds. The intestinal tract is almost completely empty, containing only a small quantity of very liquid material as a result of the very profuse diarrhoea.

Treatment. The following treatment should be applied:

(a) Emptying of the stomach by means of a stomach pump. The use of the stomach pump, if available, is to be preferred to stomach lavage, as the introduction of liquid into the stomach washes a portion of the

poison present in the stomach into the small intestine where it is absorbed much more quickly. If emetics have to be used, sodium bicarbonate is recommended as in addition to its emetic properties, it is inclined to render *cucumin* inert. Possibly the active principle of the edible cucurbits, which have a bitter taste, is *cucumin*, the active principle of the toxic species of *Cucumis* mentioned above, or a substance chemically closely related to it.

(b) As analeptics nikethamide (coramine) or picrotoxin should be used in order to combat asphyxia.

(c) Diarrhoea should be treated with carron oil to which tannic acid has been added (4.0 gm. of tannic acid to 300 c.c. of carron oil).

In my experiments upon animals poisoned with gastro-intestinal irritants, I found this mixture most excellent in the treatment of acute, and even haemorrhagic, gastro-enteritis. These favourable results were confirmed on three Natives who were poisoned as a result of using the fruit of *Cucumis africanus* as a purgative. All three Natives suffered from a most acute haemorrhagic gastro-enteritis. They were given a tablespoonful of the above mixture *per os* every three hours and in the morning and evening they were given an enema consisting of three ounces of the same mixture.

(d) It is obvious that special attention should be paid to the patient's diet and to the combating of depletion of the body of water and salts as a result of the profuse diarrhoea.

REFERENCES

1. Steyn, D. G. (1932): *The Toxicity of Maranc.* S. Afri. Vet. Med. Assoc., 3, 44.
2. Steyn, D. G. (1935): *Recent Investigations into the Toxicity of Known and Unknown Poisonous Plants in the Union of South Africa.* Onderstepoort. J. Vet. Sci. Anim. Ind., 4, 399.
3. Steyn, D. G. (1936): *The Toxicity of the Ordinary Smooth-skinned Marrow (Species of Cucumis).* J. Roy. San. Inst., 56, 768.
4. Rimington, C. and Steyn, D. G. (1935): *The Isolation of a New Bitter Principle from a South-West African Species of Cucumis.* S. Afr. J. Sci., 32, 137.
5. Rimington: *Isolation of the Toxic Principles of Cucumis Afrikanus L.f., Cucumis myriocarpus Naud. emend. Schweikerdt, and of Cucumis leptodermis Schweikerdt sp. nov., their Characterisation as Trilactones belonging to the 'Bitter Principle' Class.* Onderstepoort J. Vet. Sci. Anim. Ind., 4, 65.

A NEW TREATMENT FOR POLYNEURITIS*

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THE RATIONALE

Hepatic enlargement and hepatic tenderness are commonly encountered in 'alcoholic' and in 'diabetic'

*A paper read before the Medical Graduate Association (University of the Witwatersrand) on 10 May 1950.

polyneuritis. Polyneuritis is commonly found in pellagra, arsenical poisoning and Addisonian anaemia. In all these conditions there is pathological evidence of liver damage. Disturbed liver function due to fatty change might therefore be an important factor in the causation of polyneuritis.

If the liver produces a hormone or stores a substance necessary for the nutrition of nervous tissues, it is conceivable that this would be diminished in the conditions mentioned above and so be the cause of the disturbances in the nervous system.

With the advent of vitamin B₁₂ and its reported action in rapidly clearing up the neurological manifestations of Addisonian anaemia in some instances¹ it seemed reasonable to give it to cases of polyneuritis in the hope of making good the presumed deficiency.

THE CASES

Case 1. Mr. S. H. G. N. Aged 38. 'Alcoholic' Polyneuritis.

28 October 1949. He complained of aching from knees to toes and 'pins and needles' over this area and numbness of the feet for three weeks.

The soles were found to be hyperaesthetic and the calves very tender to pressure. There was loss of sensation to pin prick and light touch from half-way down legs to toes. Knee and ankle jerks were brisk. There was some loss of power; 60 micrograms of vitamin B₁₂ were given intramuscularly.

29 October 1949. Aching has been completely relieved. 'Pins and needles' is very slight. Hyperaesthesia of the soles is less marked. Calf tenderness has completely disappeared, with evidence of returning sensation to pin-prick and light touch. Muscles are stronger.

2 November 1949. Improvement maintained. Physical signs as above and 60 micrograms of vitamin B₁₂ were given.

3 November 1949. Complete disappearance of paraesthesiae. No hyperaesthesia. No anaesthesia.

Cases 2 and 3. Mr. A. J. C. and Mr. T. W. B., both middle-aged men suffering from 'alcoholic' polyneuritis of over a year's standing. There was no response to three injections of 60 micrograms of vitamin B₁₂ given on alternate days. Both were chronic cases with muscular atrophy, absent knee and ankle jerks, with anaesthesia to all forms of sensation from the knee down. There was no calf tenderness. Muscular weakness was marked.

As a result of failure in these cases and also because vitamin B₁₂ was in short supply it was decided to treat only early cases henceforth; i.e. cases presenting the early signs of tender calves, hyperaesthetic soles, anaesthesia and brisk tendon reflexes. In the cases to be described the duration of symptoms varied from three weeks to two months, with certain exceptions to be mentioned later.

Case 4. Mr. M. le R., aged 55, with 'diabetic' polyneuritis. 3 November 1949. He complained of severe aching in the lower limbs. No anaesthesia was detected. The soles of the feet were hyperaesthetic. The calves were very tender to pressure. Knee and ankle jerks were absent. There was muscular weakness. He was given 60 micrograms of vitamin B₁₂.

4 November 1949. He states that aching is less. Hyperaesthesia of the soles, and calf tenderness were less. Otherwise there was no change.

5 November 1949. No change. Given 120 micrograms of vitamin B₁₂.

6 November 1949. The aching of the limbs has disappeared. Very slight hyperaesthesia of the soles of the feet. No calf tenderness. Tendon reflexes absent. Muscles stronger.

7 November 1949. Complete disappearance of all signs of hyperaesthesia. No calf tenderness. Tendon reflexes absent. Considerable improvement in muscle power. Given 60 micrograms daily for five days.

Perfectly well from 7 November 1949 to day of discharge 2 December 1949.

Case 5. Mrs. F. C., aged over 40, 'alcoholic' polyneuritis. 2 November 1949. Severe aching pain from the hip down. Soles hyperaesthetic. Calves very tender to pressure. No anaesthesia detected. Knee and ankle jerks exaggerated.

Marked tremor of hands. Muscular weakness. Given 60 mg. vitamin B₁₂.

3 November 1949. Aching pain less. Soles of feet less sensitive. Calf tenderness diminished. Tendon reflexes exaggerated. Tremor much less. No change in muscle power.

4 November 1949. As above; 60 micrograms vitamin B₁₂ given.

5 November 1949. Marked improvement in subjective pain. Hyperaesthesia of soles and tenderness of calves have completely disappeared. No tremor of hands. Tendon reflexes less brisk. Muscles stronger.

6 November 1949. As above.

7 November 1949. Given 120 micrograms of vitamin B₁₂. Improvement maintained at time of discharge a week later.

Case 6. Mrs. I. O'B., aged 40, 'alcoholic' polyneuritis.

18 November 1949. Complained of aching pain from knees down to feet. Tingling and 'pins and needles' over the same distribution. Soles of feet hyperaesthetic. Calves tender. No anaesthesia detected. Tendon reflexes brisk. No loss of muscular power. Given 60 micrograms of vitamin B₁₂.

19 November 1949. Complete disappearance of paraesthesiae, hyperaesthesia of soles and calf tenderness. Wishes to go home. Given 60 micrograms and discharged.

Case 7. Mr. E. M., aged 54, 'diabetic' polyneuritis.

20 December 1949. Aching pain lower limbs. Soles of feet hyperaesthetic. Calves very tender to deep pressure. No anaesthesia detected. Knee and ankle jerks absent. Some loss of muscular power. Given 120 micrograms of vitamin B₁₂.

21 December 1949. Improvement in all signs and symptoms. Tendon reflexes absent. Given 60 micrograms of vitamin B₁₂.

22 December 1949. Complete disappearance of paraesthesiae, hyperaesthesia of soles and calf tenderness. Tendon reflexes still absent.

Case 8. Mr. J. P. R., aged 52, 'alcoholic' polyneuritis.

18 February 1949. Complains of severe aching pain, tingling, 'pins and needles' from hips down to feet and of numbness of feet. Soles of feet hyperaesthetic. Calves very tender to deep pressure. Anaesthesia to light touch from middle of leg to toes. Tendon reflexes very brisk. Considerable loss of motor power. Given 150 micrograms vitamin B₁₂.

19 February 1950. He states that he is feeling better. Aching pain much less. Tingling and 'pins and needles' gone. Numbness of feet still present. Anaesthesia as above. Hyperaesthesia of soles still present but calf tenderness gone. Tendon reflexes very brisk. Motor power improved.

24 February 1950. Improvement maintained. All subjective sensations have disappeared except sensation of numbness of feet. Given 120 micrograms of vitamin B₁₂.

25 February 1950. As above, except that hyperaesthesia of soles less and muscles stronger. Tendon reflexes still very brisk.

27 February 1950. As above. Given 210 micrograms of vitamin B₁₂.

28 February 1950. Numbness of feet has disappeared. Very slight hyperaesthesia of soles. Sensation of light touch has returned to anaesthetic area. Tendon reflexes no longer brisk. Great improvement in muscular power.

Case 9. J. C., aged 19, a severe diabetic whose treatment had been neglected in the country and who was admitted to hospital with cancrum oris and signs of polyneuritis.

19 November 1949. Complained of aching and cramp in both legs. Hyperaesthesia of soles of feet. Calves very tender to pressure. No anaesthesia detected. Tendon reflexes absent. Muscular wasting and marked loss of power. Given 120 micrograms of vitamin B₁₂.

20 November 1949. No appreciable change. Given 120 micrograms of vitamin B₁₂.

21 November 1949. Aching and cramp no longer present. Calf tenderness has disappeared. Slight hyperaesthesia of soles. Tendon reflexes absent. Marked improvement in muscular power.

24 November 1949. Improvement maintained. Hyperaesthesia of soles of feet has cleared up.

This patient was very ill on admission. His diabetes was controlled and he was given penicillin, streptomycin, aureomycin and chloromycetin in an attempt to overcome the oral infection. After a stormy passage he recovered with residual nerve palsies in all the cranial nerves of the left side from the 1st to the 7th. Treatment with vitamin B₁₂ was only undertaken at this stage. He was then treated by the Ear, Nose and Throat Surgeon who removed a good deal of dead bone from the left maxillary region.

When the nervous system was re-examined on 14 January 1950 it was found that the signs of polyneuritis had recurred. There was marked hyperaesthesia of the soles of the feet and marked tenderness of the calves to pressure. There was, as before, no evidence of anaesthesia and the tendon reflexes were still absent. He was given 5 c.c. of normal saline intramuscularly. There was no change in the physical signs after 48 hours. He then received 150 micrograms of vitamin B₁₂ (5 c.c.) intramuscularly. Within 24 hours after this injection his hyperaesthesia had completely disappeared and there was no longer any calf tenderness. He received no further injection of vitamin B₁₂ and on 9 March 1950, seven weeks after the last injection, he was quite well and there was no evidence of the return either of the hyperaesthesia or of the calf tenderness. Examined on 18 April 1950 there was no change. Re-examined on 10 May 1950 he was still well.

Case 10. Mr. J. K., aged 70, 'diabetic' polyneuritis.

9 April 1950. Complains of aching pain in thighs, 'pins and needles' in the legs and feet for the past four months. Calves tender. Doubtful hyperaesthesia of soles. Anaesthesia to light touch and pin prick from knee down. Knee jerks present on reinforcement. Ankle jerks absent.

11 April 1950. No change. 5 c.c. normal saline injected into each buttock.

12 April 1950. States that he is feeling better, aching still present in thighs, 'pins and needles' in legs. Objectively, no change noted.

13 April 1950. No change. 150 micrograms vitamin B₁₂.

14 April 1950. Doubtful subjective improvement. Anaesthesia from midcalf downwards; 200 micrograms vitamin B₁₂.

15 April 1950. 'Pins and needles' slight. Aching in thighs still present. Calf tenderness less. Anaesthesia only on dorsum of feet; 200 micrograms vitamin B₁₂ given.

16 April 1950. Aching in thighs gone; 'pins and needles' gone. Calf tenderness very slight. No anaesthesia detected; 200 micrograms vitamin B₁₂ given.

17 April 1950. No calf tenderness. No anaesthesia. Tendon reflexes as on admission; 200 micrograms vitamin B₁₂.

22 April 1950. As above. Discharged.

Case 11. Mrs. B. W., aged 62, 'diabetic' polyneuritis.

26 March 1950. Complains of aching pains in legs for two years. Much worse in the last year. Sore on sole of left foot for past three months. Calf tenderness very marked. Anaesthesia from about 4 inches below the knee down. Tendon reflexes absent. Perforating ulcer, left foot.

11 April 1950. As above; 5 c.c. saline injected into each buttock.

12 April 1950. States that she is feeling better. Objectively no change.

13 April 1950. No change. 150 micrograms vitamin B₁₂ half the dose into each buttock.

14 April 1950. Aching still present. Calf tenderness still present. Anaesthesia: level lower now, only from ankles down; 200 micrograms vitamin B₁₂.

15 April 1950. Aching very slight. Calf tenderness, slight on right side, still marked on left. Anaesthesia only on dorsum of feet. 200 micrograms vitamin B₁₂ given.

16 April 1950. Aching gone. Calf tenderness very slight on right, still marked on left side. Anaesthesia only of toes and area just proximal to them; 200 micrograms vitamin B₁₂ given.

17 April 1950. No change; 200 micrograms vitamin B₁₂ given.

18 April 1950. Calf tenderness gone on right side, present on left, but less; 200 micrograms vitamin B₁₂.

19 April 1950. No change; 200 micrograms vitamin B₁₂.

23 April 1950. Contracted pneumonia. Treated with Crysticillin, 300,000 units b. d.

25 April 1950. Temperature settled.

4 May 1950. Examination of lower extremities as at the last examination.

THE TREATMENT

Dosage. The dosage is considerably larger than that recommended for the treatment of Addisonian anaemia. I began with 60 micrograms and in the end had given as much as 210 micrograms in one injection. The best result was achieved after this last dose.

Apart from a little localized tenderness owing to the large size of the intramuscular injection (7 c.c.), no untoward effects were experienced either with this or with any other of the doses used.

The injection was usually given into the gluteal region. On two occasions 60 micrograms (2 c.c.) were injected into one of two tender calves to see if the vitamin (?) acted peripherally in which case one would expect the tenderness to pass off more rapidly on the injected side. This did not occur. On the contrary, the side into which the injection was made was tender for a slightly longer period owing, no doubt, to the trauma involved.

The first seven cases and case 9 were all treated with the proprietary preparation Rubramin (Squibb). Case 8 received two injections of the preparation Cytamen (Glaxo) the remainder being Rubramin. In cases 10 and 11 the initial injection was Rubramin, the remainder Cytamen.

COMMENT

In this small series only cases of 'alcoholic' and 'diabetic' polyneuritis were treated. The next step would be to treat all cases of polyneuritis, whatever the 'cause', in the same way; for if the assumption that deranged liver function precedes the polyneuritis is correct, then one would expect satisfactory results in the other forms. In diphtheria, in anaemia (micro- or macrocytic), in malnutrition associated with pellagra and beri-beri, in lead and in arsenic poisoning, a fatty liver must be a *sine qua non*. Even infective polyneuritis might well result from prior liver damage by the infecting organism.

I would also consider it justifiable to use vitamin B₁₂ in all the other nervous disorders associated with chronic alcoholism, e.g. delirium tremens, Korsakoff's syndrome, Wernicke's encephalopathy and alcoholic hallucinosis. These conditions might well result from malnutrition adversely affecting the liver.

Finally this new therapeutic weapon might also be used to attack those diseases of the nervous system which present with symptoms and signs affecting the body symmetrically, diseases such as progressive muscular atrophy. This would have to be in the early stages before the neurones had suffered irreversible damage.

I would like to record my indebtedness to my houseman Dr. S. R. Kaplan for his help in keeping records and to the late Dr. G. W. S. Cottrill for his assistance in the selection of cases.

REFERENCES

1. Annotation (1949): *Lancet*, 24 September, pp. 565-566.

Echoes from the Past

ARCHIVES FOR A HISTORY OF MEDICINE IN SOUTH AFRICA

Ether Anaesthesia and Amputation in 1847

From the *Grahamstown Journal* 19 June 1847

PAINLESS OPERATION BY MEANS OF ETHER

On Tuesday a very successful surgical operation was performed by Dr. A. G. Atherstone,—the patient, Mr. F. Carlisle, Deputy Sheriff of Albany, being at the time under the influence of Ether, and perfectly unconscious of pain, during the whole of the process. This gentleman had been labouring under lameness and contraction of the leg for upwards of 27 years, and which had latterly so much impaired his general health as greatly to alarm his friends and family. Amputation of the diseased member was considered by the faculty as the only chance of prolonging life; and accordingly no sooner did the intelligence of the extraordinary effects of Ether reach this place, than it was resolved to test the effects in his case. The result, as already observed, was perfectly successful. Everything being prepared, the patient on Tuesday morning was quickly thrown into a state of stupor, partially conscious of what was going on, and yet the sense of pain entirely absent. The limb was most ably amputated by Dr. Atherstone, in presence of Dr. J. Atherstone and Dr. Irvin, medical staff, about six inches above the knee, without the smallest indication of suffering. We are glad to say that the patient is doing as well as can be expected under the circumstances. In our next we hope to give the report of the operator, as the humanity, as well as the advancement of science, alike demand that this subject should have the widest publicity.

This discovery seems to give an entirely new character to the surgical art, and to open a door for further research, the ultimate extent, importance, and value of which to mankind it is impossible to calculate. The same process has, we learn from late papers, been introduced into medical practice in British India, where for some time previously the subject of Mesmerism had excited a good deal of attention. It is now thought that the two processes may be employed with equal success. . . .

From the *Grahamstown Journal*, 26 June 1847

SULPHURIC ETHER

We now redeem the promise made in our last to state some additional facts relative to the surgical operation recently performed by Dr. W. G. Atherstone in the case

of Mr. F. CARLISLE, he being at the time in a state of stupor, caused by the inhalation of ether. The following particulars, interesting alike to the lover of science and friend of humanity, have been furnished by the operator:

The first opportunity I had of testing the efficacy of ether in surgical operations was on Mr. F. Carlisle, Deputy Sheriff of Albany. This gentleman about 27 years ago lost almost the whole of the calf of his leg from erysipelas, terminating in gangrene, which nearly proved fatal. From this very great contraction of the leg resulted, and for the last few years there has been an irritable ulcer, extending up into the bend of the knee, being a constant source of such continual pain and annoyance that he would gladly have got rid of the useless limb years ago if it could have been removed without pain. After several experiments with different kinds of apparatus, with and without valves, which it is unnecessary for me to describe, I succeeded in producing the requisite degree of insensibility to pain by means of a simple contrivance as shown in the following sketch:



The patient being satisfied as to the powerful effects of ether at length consented to have his leg removed, stipulating that the operation should not be commenced till he himself gave the word, and the following day (Wednesday, 16th inst.) I amputated the thigh in its lower third, assisted by my father, Mr. J. A., District Surgeon, Dr. Hadaway, 91st and Dr. Irwin, 27th Regt. After ten

or twelve inhalations of the ether the patient put down his hand and pinched himself to ascertain what degree of sensibility there was. He then continued inhaling for a short time longer, when he again pinched himself and immediately said: "I am drunk enough now—you may begin." The tourniquet was immediately tightened and at the same instant the first plunge of the knife effected without the least motion or sign of suffering on the part of the patient, who at this stage appeared perfectly unconscious, and continued inhaling the ether, mechani-

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cally opening and closing his nostrils with his own hand. So perfect was the insensibility that Dr. Irwin, who had placed his hand on the patient's arm, thinking he might start, finding not the slightest resistance during the first incision, removed his hand altogether, as did also an assistant who had taken hold of the leg, and for the rest of the operation the patient lay perfectly free and motionless on the bed. At the second incision, which divided the large nerves and vessels, he uttered an involuntary shriek, although not the slightest movement was perceptible or other symptom of pain. As soon as the leg was off the ether bottle was removed, the patient still holding his nose and becoming very talkative and even humorous as he gradually recovered from the stupefying effects of the ether. The time during which the ether was inhaled was about three minutes. When the arteries were taken up and the dressings being applied, the following dialogue took place between the patient and one of the medical gentlemen present: Patient—"It's very odd, do you know I fancy I am *still* holding my nose!" Dr. I.—"Well, so you are, most energetically too." "Then why remove the vapour?" "Because the operation is all over—your leg has been off some time now." "Now don't talk nonsense to me—I'm a reasonable man you know—explain why the bottle is gone." "You don't want it any longer—your leg is off, Mr. Carlisle." "What, *my* leg taken off? impossible—I can't believe it—let me see for myself"—and, on seeing the stump, he burst out: "God be praised, it's the grandest discovery ever made,—we must erect a monument to this fellow's memory,—it's the greatest boon ever conferred on man, I have been totally unconscious of every thing—the sound of that horrid saw still grates upon my ear as if heard in a dream from which you have just awoke me, but as for *pain* I have not felt the slightest." He has since stated that the impression on his mind was

that he was present at an amputation performed upon some other person,—he has a vivid recollection of hearing the scream, and pitied the poor fellow from his heart, but had no conception that the poor patient he so commiserated was in reality *himself*! The ether should be inhaled *cold*. I found that rapid vaporization from *extent of surface* is much preferable to vaporization by heat. The vessel, as shown in sketch, in which the ether is placed should be of such a size as to contain sufficient vapour to induce *rapid* insensibility, success appeared to depend in a great measure on the *rapidity* with which it acted. The tube through which the ether is inhaled should be sufficiently large to offer no resistance whatever to free inspiration, and the respiration should be slow and prolonged so that the lungs are well filled with the vapour which should be retained for a few seconds before being expired again. The apparatus on the present occasion consisted of a large, wide-mouthed bottle, capable of holding two quarts, which had two apertures in the cork, through one of which passed a glass tube, $\frac{1}{4}$ inch in diameter, reaching to within $\frac{1}{4}$ inch of the surface of the ether; in the other aperture an elastic tube with ivory mouth piece was fixed for inhaling the vapour. About two ounces of ether being poured down the glass tube, both tubes were stopped for some minutes to allow the vapour to fill the bottle before inhaling. Assuming the quantity of air taken into the lungs at each inspiration to be 20 cubic inches, which is about the average, a bottle of this size will contain vapour for about $5\frac{1}{4}$ inspirations. These experiments have fully satisfied me as well as the other medical gentlemen who attended the operation, that the inhalation of ether is perfectly safe, and unattended by any unpleasant consequences when properly administered and that it is capable of producing complete insensibility to pain and prostration of muscular power.

IMPRESSIONS OF THE SECOND PAN-AMERICAN EAR, NOSE AND THROAT CONGRESS: URUGUAY AND ARGENTINA

DOUGLAS W. SIBBALD, M.D.

Buenos Aires

The Pan-American Ear, Nose and Throat Congress was held in Montevideo, Uruguay, and Mar del Plata, Argentina, from 8-16 January 1950. It was attended by 252 participants from 19 countries. Brazil was particularly well represented.

As is customary in these congresses, the social side is blended with work. In addition to the usual papers and subsequent discussions, there was an exhibition of scientific films and numerous courses open to congress members both in Montevideo and Buenos Aires after the congress had closed. These form a very popular addition to all congresses on the American continent and varied on this occasion from a complete course of ear, nose and throat plastic surgery to individual operations and various surgical and other techniques. The demonstrations are made on the cadaver and living subjects.

Finally there were scientific exhibitions of surgical instruments, audiometers and hearing aids.

We were welcomed to Uruguay by the President of the Republic and his Minister of Health in the sumptuous chamber

of the Congressional Palace. The congress proper was presided by Prof. Justo Alonso. In turn the representatives of the 19 countries rose and addressed the President and in happy speeches conveyed to him the salutations of their respective governments.

The President then declared the congress open and we all withdrew to begin the serious work.

We were installed in the 14th and 15th floors of a capacious building belonging to the University, with ample and adjoining conference rooms which enabled one to move from one to another without loss of time, a factor of importance when interesting papers and discussions are proceeding concurrently. Above all, we were centrally situated in a city of over 1,000,000 people.

The Montevideans were well aware of our presence and took a lively interest in us, while newspaper publicity was keen and profuse. Everyone was kind and helpful and imbued with a refreshing degree of civic pride.

An interesting feature of the congress was the headphone transmission by means of which one could follow the paper either in English or Spanish.

The session opened with papers on the frontal sinus in one theatre and non-cancerous pathology of the oesophagus in the other.

Perhaps the most interesting papers of the morning in the Frontal Sinus Conference were contributed by Prof. P. Calicetti, of Bologna, Italy, and Prof. A. R. Bergara of Buenos Aires. Each speaker was allowed 10 minutes for his paper, and in the ensuing discussion five minutes was conceded to any one speaker with 10 minutes for the author's reply.

Bergara spoke of his osteoplastic operation. He said he always did a preliminary trans-antral operation following the technique of Ermiro de Lima, and found at times that this was sufficient to cure the disease, but the determining feature is size. If the sinus is more than 30 mm. or the cavity cannot be classed as a small or small medium sinus, then the endonasal intervention would not cure the frontal sinusitis.

He made an interesting innovation by recommending the use of inserts of fat taken from the thigh or abdomen to fill the frontal sinus, once the cavity had been carefully denuded of its mucous membrane. This application to the sinus is paralleled in the ear by the same procedure, applied, on terminating the radical and modified radical operations, to the operative cavities. In all these cases the fat is theoretically supposed to remain in these cavities and seal them off either from the nasal cavity in one case or the middle ear in the other. The naso-frontal duct is not interfered with and the procedure is not only applied to chronic sinusitis, but to mucocoeles.

The statistics on the results of this work are small, but all the hospitals in Buenos Aires are trying it out and results are very promising so far.

Among the papers on non-cancerous affections of the oesophagus the most outstanding were by Hollinger and Pottes, and Hollinger and Johnson on congenital atresia of the oesophagus and congenital stenosis. Another paper on the prophylactic treatment of fresh burns of the oesophagus by Salzer's method was claimed to give very favourable results. During the discussion it was agreed that treatment for oesophageal strictures is dilatation. The peroral methods (oesophagoscopic bouginage, string-guided technique) and the retrograde route were also discussed. If dilatation is accompanied by serious difficulties, transthoracic resection with oesophago-gastrostomy is recommended.

The following morning we had papers on tumours of the pharynx and buccal and pharyngeal lesions produced by fungi and parasites. The most outstanding paper was contributed by the Uruguayan school in the person of Dr. Freijo; it was entitled *Affections of the Mouth, Pharynx and Larynx due to Deep Mycosis*.

In the other theatre Hollinger spoke on the physiology of the bronchial secretion and pointed out that the secretory function was activated by carbon dioxide but suppressed by oxygen.

The treatments of cancer of the larynx with conservation of the vocal cords occupied a very important part in the congress, because Prof. Alonso of Montevideo has practised an operation with this end in view. The operation was described at the First Pan-American Congress, Chicago.

Leborgne of Montevideo is outstanding in South America for his success with radiotherapy of laryngeal cancer. He described his technique of irradiating the whole larynx through a circumscribed area of 3×4 cm. and another of 2×8 cm. for the carotid chain of glands.

The afternoons of three days were devoted to plastic surgery and in this Dr. John Marquis Converse took a very active part. He comes from New York and introduced several novel techniques.

The social side of the congress was most interesting. On our first free night we were all conveyed along the brilliantly illuminated Maritime Boulevard which borders the sea for miles as far as the Hotel Miramar where the Mayor of Montevideo had invited us to a banquet followed by typical folk songs and country dances. The next day we were taken for a 90-mile drive to see what the Uruguayans consider the Pearl of the South Atlantic, the bathing resort of Punta del Este, with its country club, golf courses and beautiful villas.

We stopped on the return journey at Punta Ballena, a peaceful beach in the estuary of the River Plate and were entertained to an *al fresco* dinner within 100 yards of the moonlit water. Further dancing followed and then an uneventful return to Montevideo with the congressional members throwing cares to the winds, singing choruses in Spanish, Portuguese and English. The Montevidean part of the congress terminated on the night of the 12th with a farewell banquet in the handsome Carrasco Hotel and the next day by special steamer, the congress members were conveyed to Buenos Aires.

We should have been received at 9 a.m. by President Peron, but as his wife 'Evita' had been operated on the previous night, the Minister of Education, himself a well-known surgeon, and who had performed the operation, deputized for him.

Our next objective was Mar del Plata, 250 miles south of Buenos Aires, and Argentina's main watering place. We were installed in the auditorium of the Casino which dominated the main beach of this city of 500,000 inhabitants. The Casino is primarily devoted to roulette and games of chance, but within its vast twin structures it contains theatres, concert halls, ice-skating, ballrooms, restaurants, games gymnasiums and 552 residential apartments. In short, the Casino in Monte Carlo is a poor relation. However, the building is so vast that the auditorium is completely isolated from the crowds that throng the building and was ideal for the purpose with its commodious and luxurious seating.

Our programme was a stiff one and the President was Prof. J. M. Tato. The subject was the ear, and the American delegation from Chicago was formed by Shambaugh, Lindsay and Kobrak, a formidable trio. Prof. Lindsay contributed on the opening day with *Serous Otitis Media, Diagnosis and Treatment*. The next event was a showing of Kobrak's film entitled *How the Ear Hears*. In the opinion of the majority this film alone would make any congress worth while. Some of us were privileged to see it in London where its success was enormous. To see the vibrations of the drum responding to Liszt's Rhapsody was fascinating, and later the reproductions of a Handel chorus as it sounds to those with a transmission or perception deafness was only a small part of the interest afforded by this remarkable film.

The next morning was devoted to otosclerosis and terminated with Shambaugh's principles that govern the closure of the fenestra and Tato read Silverman's paper on *Speech Audiometry in Clinical Practice*.

In the afternoon further papers and discussions were devoted to Speech Audiometry. The following morning a paper by Prof. P. House was read, in his absence, on *Personal Experience of Fenestration*. Kobrak was very interesting on the results obtained in the treatment of deafness by mechanical prostheses.

Despite the advances made since the advent of the fenestration operation, deafness due to chronic otitis media still remained a problem child of otology.

Audiometric studies showed that the majority of these patients had excellent bone acuity, despite their chronic affection. Actually the deafness was due to a diseased or absent middle ear apparatus, and sound could not reach the cochlea. This led to the idea of replacing the destroyed or non-functioning sound-conduction apparatus with a unit that would function.

It is well known that the bird has extraordinary hearing. It possesses a single bone called the columella that replaces our ossicles. It follows, therefore, that as the ossicles and drum are non-existent, an artificial columella and drum might replace these.

Search is made on the internal wall of the ear for the round or oval windows, some yielding or sensitive point where an acoustic probe supporting a piece of X-ray film acting as a diaphragm replaces drum and ossicles.

The doctor talks as he seeks a point of maximum intensity of sound, which the patient recognizes at once. Permanent contact of the artificial columella is made at this point.

The next stage is to fashion an ear insert very light in structure with a fine rubber diaphragm to replace the drum, and a nylon bristle to replace the ossicular chain.

The improvement in hearing is dramatic. The apparatus is light and invisible and can be worn indefinitely if controlled at times. It can be removed and replaced by the patient. It may also be used in cases of unsuccessful fenestration with a functioning fistula by contacting it or if the fistula has closed

by exposing the round and oval windows and using one of them.

Kobrak's contribution formed part of Professor Shambaugh's paper on the medical and surgical treatment of deafness, which apart from measures of irradiation, artificial drums of pellets of cotton applied to the round windows and head of the stapes, stressed the importance of closing perforations whenever possible, so as to be able to conserve air behind an intact drum, because the air bubble acted like a spring and improved hearing beyond that attained by fenestration, in suitable cases.

Prof. Ermiro de Lima demonstrated his supra-meatal route for fenestration.

No congress is complete without a discussion on Ménière's Disease or Syndrome. The correct term is still a matter of doubt.

Lindsay spoke on the *Differential Diagnosis, Pathology and Treatment of Ménière's Syndrome*. He said that firstly a differentiation must be established between Ménière and pseudo-Ménière and indicated the procedure. Medical treatment, he felt, was useful during the actual administration, but he felt somewhat pessimistic about definite cures. The long remissions between attacks misled physicians. He referred to the modern operations of labyrinthotomy of Cawthorne and Day, which however, should only be contemplated when the vertigo can definitely be related to one labyrinth and after unsuccessful medical treatment. These operations cure the vertigo. He felt that excision of the stellate ganglion was not warranted as a treatment. Finally, the showing of Shambaugh's film of fenestration, which lasted 40 minutes, was received with much enthusiasm.

Receptions by the Mayor of Mar del Plata and Minister of Health of the Province, lunch at the golf club and afternoon at an estancia with cowboys doing their stuff, followed by a farewell banquet, brought the congress to its successful close.

As usual in Latin America, the public followed the ample details of the meetings in the press with an understanding and interest not seen elsewhere.

For five days after the congress the hospitals of Buenos Aires vied with each other to offer the congress members every type of surgery from fenestration to laryngectomy and nasal work which included a bilateral pan-sinusitis by the Ermiro de Lima technique and carried out conjointly by a surgeon on each side of the patient.

In addition to audiometry, selection of hearing aids, auditory training, speech therapy phonetics, examinations of the labyrinth, suboccipital puncture and stroboscopy of the larynx were offered to those interested in what is known here as *Cursos de Perfeccionamiento* or, in other words, *Increased Efficiency Courses*.

VERENIGINGSNUUS : ASSOCIATION NEWS

CLINICAL MEETING OF THE JOHANNESBURG SUB-GROUP OF THE ASSOCIATION OF SURGEONS OF SOUTH AFRICA HELD ON 18 APRIL 1950

Mr. Girdwood presented two cases and showed X-rays of a third.

A Traffic Inspector aged 35 years was admitted to hospital after a motor cycle accident on 12 November 1949 at 8 p.m., suffering from severe shock. This responded to the intravenous administration of 1,500 c.c. of serum in 20 minutes, followed by 1,000 c.c. of 5% glucose in water; by 10 p.m. the blood pressure had risen from 55/30 mm. Hg. to 120/60 mm. Hg. and the haemoglobin from 115% on admission to 65%. The following day the blood pressure was 120/80 mm. Hg. and the Hb 70%.

There was a large bruise in the right loin and guarding in that region. Vomiting was considerable and catheterization yielded 18 oz. of concentrated urine without blood. The patient was unable to pass urine, tidal drainage was instituted and at Professor Underwood's suggestion 5% boric acid was used.

X-rays showed a severe fracture of the pelvis with subluxation of the right sacro-iliac joint. The right pubic ramus was widely separated from the left and was lying at

a higher level. The transverse processes of L 2, 3 and 4 were fractured on the right side.

The patient ran a temperature of about 100° F and jaundice developed on 19 November. Aureomycin was started on 20 November and the temperature settled on 24 November. On 27 November the tidal drainage was stopped. He passed urine himself but developed a severe cystitis with blood, pus, gravel and severe pain, and a rise in temperature to 102° F which continued until 1 December 1949. He received Mist. Pot. Cit. and Sulphatriad during this time.

For the whole period the patient was in a canvas pelvic sling, with double Thomas' splint traction.

From 3 December he was apyrexial. The only residual complaint was pain in the right leg with hyperaesthesia over the lateral aspect of the right thigh. On 20 December the slings were removed. After six weeks he gradually started moving about.

The patient was shown to the meeting. Physical examination now revealed that he had no difficulty with his bladder, but that there was atrophy of the gluteus maximus on the left side and an area of loss of sensation to pin prick and touch corresponding to the area of the lateral cutaneous nerve of the thigh. There was a slight scoliosis and a limp, but little pain.

Discussion of the problems of the urinary complications in fractures of the pelvis and the orthopaedic aspects was introduced by Mr. Girdwood. In the treatment of fractures of the pelvis it had been his experience that the subjects of even gross deformities were successful in returning to full duty without any considerable pain.

Mr. Moller considered that in cases of this sort in which subluxation of a sacro-iliac joint is present, some shortening occurred which could only be estimated by correction of the scoliosis rather than by measurements.

Mr. Girdwood then showed X-rays of a case of a shattered pelvis in which central dislocation of the hip was associated with gross shattering of the bones.

After this Mr. Girdwood told of a Native who was injured when a coal-cutting machine fell on him on 1 January 1950 and a sharp portion of the machine cut him in the perineum. It was not until three days later that he was seen. By that time he was in a desperate condition. His temperature was 101° F with a pulse rate of 130 per minute and X-rays showed a gross fracture of the pelvis with separation of the pelvic bones by about 10 inches. On the left side there was an elevation of the ilium on the sacrum of about three inches.

The lower abdomen was tense and hard and there was gas in the subcutaneous tissues over the abdomen, the chest and the scrotum. He was passing flatus.

His general condition, although extremely serious, did not, however, suggest the dire toxic state of *B. welchii* gas gangrene.

The patient was not moved from his bed. When a supra-pubic incision was made under gas and oxygen anaesthesia, considerable faeculent fluid and gas escaped and a large space in the extraperitoneal area became visible with the bare bone of the pubis exposed. This infected supra-pubic extraperitoneal wound was packed with peroxide gauze, and elastoplast traction, Thomas' splints and a pelvic sling were applied. Intense chemotherapy amounting to 100,000 units of Penicillin hourly and Streptomycin 1.5 gm. 6-hourly was given.

Three days later the patient was obviously better, the pulse was settling to about 110 per minute and the gas in the subcutaneous tissues was not advancing; in fact it was decreasing. X-rays showed some improvement in position but there was still about six inches of separation of the symphysis. The sacro-iliac joint was unaffected. Nursing was difficult, especially for dressings in the perineal area; so, still in bed, Steinman's pins were inserted through the lower femora and he was suspended using stirrups with the femora directed vertically to overhead suspension apparatus by weights and counterbalance. The femora were manipulated towards each other in the upper parts of the thigh and the pubic bones could be seen approximating towards each other. The position was maintained now by the use of plaster of Paris to the thigh, using a spica. Pelvis suspension was continued, using a sling and weights so that some of the traction was removed from the femora. X-rays showed a greatly improved position although the sacro-iliac displacement remained. It was

impossible to try nursing this patient on the side and manipulating accordingly.

At this period (4-5 days after admission) there had developed a state of paralytic ileus with a silent abdomen, vomiting and distension without rigidity. The patient was treated by gastric suction and correction of the fluid balance and after another three days vomiting ceased and peristaltic sounds returned. At this stage the pulse was under 100 per minute, the supra-pubic and perineal wounds were clean and the patient was noticed to pass wind through the supra-pubic wound.

A left inguinal colostomy was done, still without moving the patient from his bed or altering his position. The subcutaneous tissues were now free of gas and there had been no growth or culture from a swab taken at the time of drainage. Five days after the colostomy the patient had a normal stool through the colostomy.

After eight weeks the traction was removed as well as the Steinman's pins. At this period sigmoidoscopy revealed healing of the injury and gaseous insufflation passed out only through the pelvic colostomy opening. The supra-pubic wound remained as a sinus connecting to the perineal wound, but only as a narrow track. The colostomy was closed after 10 weeks.

Discussion (Mr. Girdwood): There are many general surgical and orthopaedic problems arising out of this case. The gas in the subcutaneous tissues was obviously intestinal gas and drainage was sufficient to allow tension to be relieved followed by adequate absorption. The bladder was unaffected in spite of this grave infection and catheterization was never employed.

Colostomy was delayed for several reasons. Firstly, it would probably have killed the patient at the stage when he was first seen; the gas in the subcutaneous tissues may have been due to gas gangrene creating a danger for operation. At a slightly later stage the development of ileus indicated reason for further delay, as the bowels were still unlikely to act until tone had returned to the bowel.

By the time the bowel sounds returned, and the first passage of gas below and through the supra-pubic wound, the subcutaneous tissues were relatively healthy and colostomy could be done before faeces contaminated the extra-peritoneal tissues. The course of the case indicated that this was the correct choice of procedure.

Orthopaedic Aspects. Nursing difficulties were greatly assisted by this form of suspension and placing of the buttocks at the bottom of the bed. However, the sacro-iliac dislocation was not affected by these methods. The adduction force at the upper femoral regions undoubtedly aided reduction even at the late stage of 10 days after the accident.

No neurological complaints arose in the case.

Professor Underwood discussed the case of a boy who had ruptured his membranous urethra. He had done a supra-pubic drainage. A catheter was passed through the urethra into the bladder and a stricture was prevented from forming permanently by repeated dilatations. The patient was not presented as he was running a temperature.

Mr. Moller said it seemed that there were two types of cases:—those in which any of the methods used allowed reduction to occur and those in which all methods failed. A method which he found useful was similar to that used in Mr. Girdwood's second case but using a turnbuckle to adduct the femora, and he preferred traction only on the one leg. Operations to wire and approximate the bones either from behind or in front were unsuccessful. It is seldom that arthrodesis is necessary after fractures of the pelvis and they all return to full duty even with the worst types of case. One type to be considered was the central dislocation of the hip with a fracture of the acetabulum.

Mr. Brayshaw discussed urological injuries associated with fractures of the pelvis. It was amazing how often a complete disruption of the pelvis could occur without injury to the urethra. He stressed the usefulness of using a Foley's catheter with traction to pull down the bladder base and prostate in cases of rupture of the urethra with a high floating prostate. In rectal examination of these cases there is just a space where the prostate should be. **Mr. Brayshaw** stated that, in his experience, lying on the side with the uppermost leg pulled over the lower, brings about an approximation of the displacement of the sacro-iliac joint with

satisfactory results, if this can be maintained, which (in his experience) is not difficult.

Mr. Trubshaw discussed colostomy in rectal injuries. He asked the meeting what they thought, as he himself was inclined not to do a colostomy in some cases. During the war it was a routine procedure. He quoted three cases of gunshot injuries in whom no colostomy was done and yet the patients did very well.

Mr. Moller was questioned by **Mr. Colsen** concerning extra-articular arthrodesis in the shattered pelvis with central dislocation of the hip. The important thing was to transmit weight through from the foot to the spine and the Achilles graft was unsatisfactory for this type of case. He considered it important to maintain reduction of the sacro-iliac joint subluxation by the method mentioned by **Mr. Brayshaw**. Nipping of the sciatic nerve can occur in reduction of the sacro-iliac joint dislocation.

EXISTING SCALE OF FEES INCREASED

WORKMEN'S COMPENSATION ACT, NO. 30 OF 1941, AS AMENDED BY ACT NO. 27 OF 1945, ACT NO. 48 OF 1947 AND ACT NO. 36 OF 1949

(Government Notice No. 1784 dated 21 July 1950)

I, John Henry Lewis, Workmen's Compensation Commissioner, under the powers vested in me by section seventy-nine of the Workmen's Compensation Act, 1941, as amended, after consultation with the Medical Association of South Africa, hereby increase the rate of all fees as laid down in the existing scale of fees in Government Notices Nos. 1057 of 23 May 1946, and 182 of 4 February 1949, payable in respect of professional services rendered by private medical practitioners, by 7½ per cent.

The increase, which will take the form of an addition of 7½ per cent to the total of a doctor's account after assessment in terms of the Medical Handbook, will become effective from 1 August 1950, irrespective of the date of the accident or date of receipt of the relative account, and will not be payable in respect of nursing services, any services (including medical) rendered by hospitals or other institutions or by medical practitioners outside the Union, or in respect of goods supplied by chemists, etc.

The increase will, however, apply in respect of services rendered by registered masseurs and physiotherapists, and by dentists, irrespective of whether they are medical practitioners or not.

BESTAANDE TARIWE VERHOOG

ONGEVALLEWET, NO. 30 VAN 1941, SOOS GEWYSIG BY WET NO. 27 VAN 1945, WET NO. 48 VAN 1947 EN WET NO. 36 VAN 1949

(Goewermentskennisgewing No. 1784 van 21 Julie 1950)

Ek, John Henry Lewis, Ongevallekommissaris, maak hierby bekend dat ek, ingevolge die bevoegdhede my verleen by artikel nege-en-sewentig van die Ongevallewet, 1941, soos gewysig, na beraadslaging met die Mediese Vereniging van Suid-Afrika, hiermee die bestaande tariewe vir geneeskundige behandeling vasgestel by Goewermentskennisgewings Nos. 1057 van 23 Mei 1946 en 182 van 4 Februarie 1949, betaalbaar vir professionele dienste deur private mediese praktisyne gelewer, met 7½ persent verhoog.

Die verhoging wat beteken dat 7½ persent by die totaal van 'n geneesheer se rekening na berekening ingevolge die Mediese Handboek gevoeg word, tree vanaf 1 Augustus 1950 in werking, ongeag die datum van die ongeval of datum van ontvangs van die betrokke rekening, en is nie betaalbaar vir verpleegdienste nie, nóg vir dienste (geneeskundige dienste inbegrepe) verskaf deur hospitale of ander inrigtings of deur mediese praktisyne buite die Unie, nóg ten opsigte van goedere, deur aptekers, ens., gelewer.

Die verhoging sal egter van toepassing wees op dienste verskaf deur geregistreerde masseurs en fisioterapeute, en deur tandartse, ongeag of hulle mediese praktisyne is al dan nie.

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AMPTELIKE AANKONDIGING

MEDIËSE ASSISTENT-SEKRETARIS

Aansoeke deur tweetalige geneeshere word gevra vir die betrekking van Mediese Assistent-Sekretaris van die Mediese Vereniging van Suid-Afrika by sy Hoofkantoor in Kaapstad.

Die salarisskaal is £1,250 x 50—£1,500 plus lewenskostetoelae teen Regeringskaal (£208 per jaar vir getroude persone en £57 4s. vir ongetroudes).

Van die suksesvolle aansoeker sal verlang word dat hy by die Vereniging se pensioenskema aansluit.

Aansoeke moet gerig word aan die Mediese Sekretaris, Posbus 643, Kaapstad, en moet vergees word van drie resente getuigskrifte. Sluitingsdatum vir die ontvangs van aansoeke 31 Augustus 1950.

OFFICIAL ANNOUNCEMENT

ASSISTANT MEDICAL SECRETARY

Applications are invited from bilingual medical practitioners for the post of Assistant Medical Secretary of the Medical Association of South Africa at its Head Office in Cape Town.

The salary scale is £1,250 x 50—£1,500 plus cost-of-living allowance at Government rates (£208 per annum for married persons and £57 4s. for single persons).

The successful applicant will be required to subscribe to the Association's Pension Scheme.

Applications should be addressed to the Medical Secretary, P.O. Box 643, Cape Town, and should be accompanied by three recent testimonials. Closing date for the receipt of applications 31 August 1950.

PASSING EVENTS

Dr. I. Sacks of Bloemfontein sails on 8 September 1950 in the *Carnarvon Castle* for England on post-graduate studies. He will be accompanied by Mrs. Sacks.

Dr. Norman Shapiro, M.R.C.P. (London) has joined Dr. I. Sacks in specialist practice at 31 S.A. Mutual Buildings, Bloemfontein. Dr. Shapiro has just returned from a four-year sojourn in England. He was formerly a senior resident medical officer at King Edward VIII Hospital and a senior medical registrar in the National Health Service, England.

Dr. D. P. Marais of Cape Town has accepted an invitation to serve as Co-Chairman for the Scientific Section of the First International Congress on Diseases of the Chest to be held at the Carlo Forlanini Institute, Rome, Italy, from 17 to 22 September 1950.

Dr. Marais will preside at the scientific session to be held on 19 September and he will lead a discussion on *Antibiotic Therapy and Artificial Pneumothorax*.

He will leave South Africa on 6 September by flying boat for Rome and will proceed to Switzerland after the International Congress. Then he will travel to South America via the Panama Canal and will visit Chile before his return to South Africa. Dr. Marais will be away five to six months.

Dr. and Mrs. S. Michelson of Cape Town left Johannesburg by air on 18 August for a visit to the Continent and the United Kingdom. They will be away for approximately 10 weeks.

Dr. Michelson will attend the First World Medical Cardiological Congress in Paris in September.

EMPIRE MEDICAL ADVISORY BUREAU

South African medical practitioners who are thinking of visiting the United Kingdom should get into touch with Dr. H. A. Sandiford, Medical Director of the Bureau, at B.M.A. House, Tavistock Square, London, W.C.1, so that all the facilities of the Bureau will be placed at their disposal.

Medical practitioners will find the Bureau helpful in arranging accommodation as well as post-graduate courses of study.

REVIEWS OF BOOKS

THE ACTH CONFERENCE

Proceedings of the First Clinical ACTH Conference. Edited by John R. Mote, M.D. 178 Contributors. (Pp. 624 with 414 illustrations. \$55.00.) Philadelphia: The Blakiston Company. 1950.

Contents: Introduction. 1. Eosinophil Observations in Adrenocorticotrophic Hormone (ACTH) Therapy. 2. Administration of ACTH to Normal Individuals and Patients with Intra or Extra Sellar Pituitary Tumours. 3. The Effect of ACTH during the Neonatal Period. 4. Observations on Adrenal Cortical 'Sugar-Fat-Nitrogen' Hormone ('11,17-OCS') and '17-Ketosteroid Precursor' Production by Normal Individuals of Various Ages with Comments on the Fact that (a) There may be Two ACTH's and (b) The Normal Adrenal Cortex may not produce true Androgens. 5. Studies of Adrenal Cortical and Anterior Pituitary Function in Elderly Men. 6. Adrenal Cortical Responsiveness in Patients with Cancer and Patients with Chronic Non-neoplastic Disease. Application of the Eosinophile Uric Acid-Creatinine Response Test (ACHT) to Geriatric Patients with Chronic Diseases. 7. The Levels of Circulating Eosinophils and their Response to ACTH in Surgery. Their Use as an Index of Adrenal Cortical Function. 8. Metabolic Effects of a Peptide Mixture Derived from ACTH (Li) in Comparison with those Resulting from Whole ACTH Administration in a Human Subject. 9. Effects of ACTH on Carbohydrate Metabolism in Normal Human Beings. 10. Protein Metabolism in Acute and Chronic Disease and the Relation of Protein Metabolism to the Excretion of Gluco-Corticoids. 11. The Relationship of the Hypothalamus to Pituitary-Adrenocortical Function. 12. Studies of Urinary Steroid Excretion during Salt Deprivation and Administration of DCA and ACTH. 13. Adrenal Function and Steroid Excretion in Neoplastic Disease. 14. Urinary Excretion of Steroids during Administration of ACTH. 15. ACTH and Gastrointestinal Enzymes. 16. The Response to ACTH in Various Types of Adrenal Hyperplasia. 17. The Adrenal Thyroid Relationship. 18. Results of ACTH in One Patient with Thyrotoxicosis and Thyrotoxic Heart Disease with Mild Congestive Heart Failure. 19. A Comparison of the Effects of ACTH in Panhypopituitarism, Ovarian Agenesis, and Acromegaly. 20. The Metabolic and Clinical Effects of Pituitary Adrenocorticotrophic Hormone in Spontaneous Hypoglycemia. 21. The Role of the Pituitary Adrenocorticotrophic Hormone (ACTH) and of Adrenal Cortic al Steroid Hormones in the Pathological Physiology and Experimental Therapeutics of Clinical Gout. 22. Modification of Blood Pressure by Cortisone and ACTH in Normotensives and Hypertensives. 23. Relation of the Adrenals to Alterations in the Renal VEM Mechanisms in Experimental Hypertension. 24. Studies on the Influence of Adrenocorticotrophin in Acute Nephritis, in Simple Nephrosis and in Nephrosis with Azotemia. 25. Regression of Lymphoid Tumors in Man Induced by ACTH and Cortisone. 26. The Effect of ACTH in Acute Leukemia in Childhood. 27. Effect of ACTH in Certain Types of Malignancy. 28. Changes produced by the Administration of ACTH and Cortisone in Rheumatoid Arthritis. 29. Metabolic Effects of Cortisone and ACTH in Cases of Rheumatoid Arthritis. 30. The Effect of ACTH on Amino Acid Metabolism in Rheumatoid Arthritis. 31. The Effect of ACTH on Juvenile Rheumatoid Arthritis or Still's Disease. 32. Observations on the Effects of ACTH in Patients with Rheumatic Fever and Rheumatic Carditis. 33. The Effect of ACTH on Children. 34. The Effect of Adrenocorticotrophic Hormone (ACTH) (Armour) on the Clinical Syndrome of Dermatomyositis. 35. Effects of ACTH in Patients with Collagen and Allied Diseases. 36. The Effect of ACTH on One Case of Periarthritis Nodosa. 37. The Treatment of Scleroderma with Adrenocorticotrophic Hormone: Preliminary Observations. 38. The Effect of ACTH on Ulcerative Colitis. 39. Preliminary Report on the Use of ACTH in the Hypersensitive State. 40. Relief of Allergic Diseases by ACTH Therapy. 41. Studies on the Effect of ACTH on Eosinophilia and Bronchial Asthma. 42. The Use of Adrenocorticotrophic Hormone in Chronic Liver Disease (Three Cases). 43. The Effect of ACTH on Patients with Pulmonary Tuberculosis. 44. The Use of ACTH in Poliomyelitis. 45. Effects of ACTH in Primary Atypical (Viral) Pneumonia and in Pneumococcal Pneumonia (Preliminary Report). 46. Electroencephalographic and Neuropsychiatric Changes in Patients Treated with Adrenocorticotrophic Hormone (ACTH). 47. Pituitary-Adrenocortical Function in Patients with Severe Personality Disorders. 48. Anxiety States: Their Response to ACTH and to Isotonic Saline. 49. The Role of the Adrenal Gland in Alcoholism. 50. Effects of Adrenocorticotrophic Hormone of the Pituitary Gland on Neuromuscular Function in Patients with Myasthenia Gravis. 51. The effect of ACTH in Myotonia Atrophica and in Progressive Muscular Dystrophy. 52. A Clinical Study of the Effect of ACTH on Chronic Neurologic Disorders in Seven Patients. Summary.

The discovery of the protean functions of the pituitary hormone capable of stimulating the adrenal cortex has opened up entirely new vistas of medical investigation and treatment.

Fundamentally an endocrinological contribution, the discovery of ACTH has revitalized the whole of medical research and apart from falling into line with the interesting and novel concepts of Selye, it has resulted in a new tool with which to expose the biological mechanisms underlying physiology as well as disease.

ACTH has acted as a quite incredible stimulus in the theory and practice of medicine. We are fortunate that the most informed survey of the subject is available in these proceedings of the first clinical ACTH conference which was sponsored by Messrs. Armour & Company of Chicago and held at the Hotel Stevens in Chicago on 21 and 22 October 1949.

The Armour laboratories have co-operated very fully with the medical profession in the investigation of the properties of ACTH in the human being and the present report gives the results of the investigators and their associates. Of particular value is the inclusion in the record of the discussion which followed on the papers read.

The volume is a report on work in progress and no physician who wishes to keep in touch with the remarkable discoveries made possible by the use of ACTH as a weapon of investigation, can afford to be without this book. In popular medical minds ACTH and cortisone are associated only with the treatment of rheumatoid arthritis. The present volume should be a useful corrective to this inadequate view and provides a firm and necessary basis for further reading and research.

WHITBY AND BRITTON'S DISORDERS OF THE BLOOD

Disorders of the Blood (Diagnosis : Pathology : Treatment : Technique). By Sir Lionel E. H. Whitby, C.V.O., M.C., M.A., M.D. (Cantab.), F.R.C.P. (Lond.), D.P.H., and C. J. C. Britton, M.D. (New Zealand), D.P.H. (Pp. 759 + xii. With 12 coloured plates and 94 Text-figures. 42s. Sixth ed.) London: J. & A. Churchill Limited, 1950.

Contents: 1. The Origin, Development, Functions and Fate of the Cells of the Blood. 2. Abnormal Haemopoiesis and Abnormal Cells Found in the Circulation. 3. The Principles and Practice of Haematological Diagnosis I. Red Cells. 4. The Principles and Practice of Haematological Diagnosis II. Leucocytes and Blood Platelets. 5. The Principles and Practice of Haematological Diagnosis. III. Physical and Chemical Properties of the Blood Cells and Plasma. 6. The Causes of Anaemia. 7. The Nature and the Mode of Action of Haemopoietic Substances. 8. Idiopathic Hypochromic Anaemia. 9. The Plummer-Vinson Syndrome. Chlorosis. 9. Pernicious Anaemia and Nutritional Megaloblastic Anaemia. 10. Anaemias due to Disease of the Alimentary Tract and its Associated Organs. 11. Miscellaneous Dyshaemopoietic Anaemias. Radium and X-rays. Scurvy. Thyroid Disease. 12. Anaemia in Pregnancy and the Puerperium. 13. The Haemolytic Anaemias. 14. The Purpuric and Haemorrhagic Diseases. 15. Anaemias in Infancy and Childhood. 16. Diseases due to Aplasia on the Bone Marrow. Aplastic Anaemia. Agranulocytic Angina. 17. Polycythaemia, Erythraemia and Erythrocytosis. 18. The Leukaemias (Leucoses). 19. Miscellaneous Disorders associated with Splenomegaly. Splenic Anaemia. Hodgkin's Disease. Diseases of Lipoid Metabolism. 20. Infection and Infectious Diseases. 21. Haemagglutination and Blood Transfusion. Blood Groups. 22. Miscellaneous Conditions. Allergy. Nephritis. Coronary Thrombosis. Diabetes. Cancer. 23. Disorders involving the Blood Pigments, Enterogenous Cyanosis. 24. Technique. Subject Index. Index of Authors.

It is gratifying that this excellent textbook on haematology has reached a sixth edition in the relatively short space of 15 years. The extensive nature of the revision is reflected in the addition of 85 text pages and the inclusion of four photomicrographs in full colour. A very adequate account of the Rh factor is included together with a useful introduction to the genetics involved. Vitamin B₁₂ is considered fairly fully and the many readers who have become loyal to this useful textbook will be glad of the opportunity to acquire the latest edition, as it is now almost five years since the previous one was published.

DIAGNOSTIC RADIOLOGY

Diagnostic Radiology for Practitioners and Students. By G. Claessen, M.D. (Pp. 411. With 396 illustrations. 60s.) London: Messrs. William Heinemann Limited. 1949.

Contents: 1. Skeletal System. 2. Fractures and Dislocations. 3. Bone Pathology. 4. Diseases of Joints. 5. The Cranium and the Central Nervous System. 6. The Accessory Nasal Sinuses. 7. Respiratory System. 8. The Heart and Blood-Vessels. 9. The Diaphragm. 10. The Alimentary Tract. 11. Liver and Gall-Bladder. 12. Acute Abdominal Conditions. 13. The Urinary Organs. 14. Obstetrics and Gynaecology. 15. Foreign Bodies. Subject Index.

A textbook of radiology is judged primarily by the quality and number of the illustrative reproductions of radiographs that it contains. If the book is well illustrated the reader inevitably learns painlessly and remembers easily.

The reproductions in this small volume are excellent, and they admirably demonstrate the points made in the text. The text itself has the disadvantage common to almost all translations: the phraseology is often irritating and at times frankly misleading; and continuous reading is difficult. There are numerous errors or readily misunderstood phrases that the knowledgeable reader can discount, but which may provide a foundation of false knowledge for the tyro. The following examples may be quoted:

(a) 'In muscular men the musc. pectoralis major throws symmetrical shadows in the basal parts of the lung fields'.

(b) Of psammoma it is said: 'The calcium deposits are of course manifest on the X-ray . . .'

(c) Listed under the radiological signs of raised intracranial pressure is: 'Local bony thickening and hyperostosis where meningiomas invade the cranium'.

A considerable amount of space is given to the clinical and pathological aspects of the conditions described. Some readers will consider this a good feature in that it provides information that might otherwise have to be sought elsewhere to enable the correlation between the pathology, clinical course and radiology to be made; but other readers will feel that in a short textbook like this the space could have been used to greater advantage for the more detailed exposition of the radiological features.

On the whole the book may be recommended to qualified practitioners who desire to review their knowledge of radiology with its pathological background, but it cannot be recommended unreservedly to medical students.

CORRESPONDENCE

THYROID TREATMENT OF HYPERTENSION

To the Editor: I very much regret that Dr. Menof should feel hurt and resentful because of certain comments and queries I made with regard to his article on the thyroid treatment of essential hypertension. I humbly maintain, however, that some statement as to where and how the blood-pressure readings were taken would have been very pertinent to the discussion, if only to remind many practitioners who, though aware of the variability of blood pressure, often do not appreciate to what marked extent this may occur. This may have been out of place at a meeting of the Physicians' Group, but certainly not in the *Journal*. I must take it, then, that the figures quoted by Dr. Menof are the lowest levels in the possible range of fluctuation for each patient, taken under similar conditions as far as these can be clinically achieved. If I was impertinent in asking a former clinical teacher of mine to confirm this, I offer my apologies.

Dr. Menof is also hurt by my comment on adjuvant treatment. But I did add, 'one assumes that none had been employed, thus enhancing the value of the single therapy tested'. Perhaps my phrasing was at fault and for this I am sorry. Yet, in all seriousness, would Dr. Menof indicate, having satisfied himself as to the worth-while role of thyroid in hypertension, whether sedatives or diet, etc., have any part in the handling of his cases now. In considering the patient as a psycho-somatic 'whole', the general well-being would apparently be the criterion of successful treatment, as the degree of lowering of the blood pressure is now not so important, except that too low a level would indicate overdosage. May I give an example to explain my dilemma? A patient with hypertension has headaches and/or insomnia. On gr. X thyroid daily the blood pressure drops and the patient feels better, but his headaches, etc., persist, though to a lesser degree. The blood pressure level may be found, however, to be very near the overdosage mark. Surely measures to relieve the persistent symptoms would not invalidate the premises with regard to the primary drug employed? There is always the possibility of a synergistic action between thyroid and other forms of treatment. Certainly no one is considering 'shot-gun' methods, but only the treatment of the complete patient and not any particular sign or symptom, as Dr. Menof emphasizes.

Finally, though very much appreciating Dr. Menof's further information and advice contained in his letter, may I express my disappointment at not receiving any reply to my query whether blood pressure figures above 120/70 mm. Hg must definitely be considered as indicating hypertension, or am I simply ignorant of facts accepted as basic by authorities on cardio-vascular diseases?

M. Segal, M.Sc., M.B., B.Ch.

Nigel Hospital Board,
P.O. Dunnottar,
Transvaal.
25 July 1950.

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